Algebra Basic Skills 1	
Solve:	
9 + a = 15	<i>a</i> =
Evaluate:	
12 + (-8) + 3	
12+(-0)+5	
<u> </u>	
Simplify:	
2x+4+3x+5	
Solve:	
12 - k = 4	k =
Simplify:	
4(3+s) - 7	
+(3+3) = 7	
Charactif.	
Simplify:	
b+b+2b	
Solve:	
r 12	
$\frac{r}{6} = \frac{12}{18}$	r =
0 10	
Simplify:	
7 - 3(f - 2)	
D 1	
Evaluate:	
-5 + (-4) - 1	
Solve:	
$63 \div c = 9$	<i>c</i> =
Simplify:	
2(s-1) + 4 + 5s	
Simplify:	
8m - 9(m + 2)	
-5(m + 2)	
Q = 1	
Solve:	
3 ft. = 1 yd.	
ft. = 9 yds.	
Evaluate:	
4 - (-2) + 8	
Simplify:	
2k+3-5(k+7)	
	i.

	Page 1
Solve: $10 - 6 = g$	<i>g</i> =
Simplify: $9 - 4d + 2 + 7d$	
Simplify: $5(b-3) - b$	
Solve: $q \bullet 5 = 30$	<i>q</i> =
Evaluate: $8 - (-6) - 4$	
Simplify: $2 + w(w - 5)$	
Solve: 1 ft. =12 in. 5 ft. = in.	
Simplify: $4 - 7b + 5(b - 1)$	
Simplify: $s + 2s - 4s$	
Solve: $x + 4 = 7$	<i>x</i> =
Simplify: $-5(q+3)+9$	
Evaluate: $9 + (-3) - 8$	
Solve: $\frac{12}{2} = \frac{48}{m}$	<i>m</i> =
Simplify: $y^2 + y - 4y + 3y^2$	
Simplify: $3(c+2) - 2c$	

Algebra Basic Skills 1	
Solve:	
$3 \cdot 8 = m$	m =
Evaluate:	
-9+5+8	
Simplify:	
x + 2(x - 5) - 3	
~ .	
Solve:	
d - 5 = 4	<i>d</i> =
Simplify:	
5(3+f) - 2f + 6	
Simplify:	
5-2b+4(b+3)	
Solve:	
4 qts. = 1 gal.	
qts. = $3 \frac{1}{4}$ gals.	
Simplify:	
4(y+1) - 8y	
Evaluate:	
14 – 7 + (– 3)	
Solve:	-
36	
$\frac{36}{6} = s$	<i>s</i> =
6	
Simplify:	
$-3w^2 + 5w^2 - 5 + 12$	
Simplify:	
9 - 4(v + 2)	
Solve:	
4r = 28	<i>r</i> =
- 20	, –
Simplify:	·
16 + 2(t - 4) - 3t	
Simplify:	
c - 3(c + 2) + 8	

	Page 2
Solve:	
$\frac{1.5}{h} = \frac{h}{h}$	7
$\frac{1}{3} = \frac{1}{9}$	h =
Simplify:	
7b - 4 - 3 - 2b	
10 - 4 - 3 - 20	
<u>a:</u> 1:0	
Simplify:	
2j - 3(j - 4)	
Solve:	
6 + 7 = v	<i>v</i> =
Evaluate:	
-5+6-6	
5 + 6 - 6	
Simplify	
Simplify: $4 + 10(1 - x)$	
4 + 10(1 - r)	
~ .	
Solve:	
2.5 cm. = 1 in.	
$_\ cm. = 6 in.$	
Simplify:	
$6a + 2a - 9 + 3a^2$	
Evaluate:	
-1 + 4 + (-7)	
-1 + + + (-7)	
<u>C</u> - 1	
Solve:	
$\frac{500}{10} = \frac{10}{10}$	<i>j</i> =
j 2	<i>J</i> —
Simplify:	
-3(u+3)-2u+5	
Simplify:	
2c-3c-c	
Solve:	
$h \div 6 = 8$	h =
$n \cdot 0 = 0$	<i>n</i> –
Evolution	
Evaluate:	
-2 + (-5) + (-8)	
Simplify:	
3z - 8z + 2 + 9	

Algebra Basic Skills 1	
Solve:	
9 + a = 15	<i>a</i> = 6
Evaluate:	
12 + (-8) + 3	07
12 + (0) + 5	23
Simplify:	
2x+4+3x+5	9+5x
Solve:	
12 - k = 4	$k = \mathcal{Y}$
Simplify:	
4(3+s) - 7	5+5
Simplify:	
b+b+2b	263
Solve:	
$\frac{r}{6} = \frac{12}{18}$	<i>r</i> =
6 18	
Simplify:	
7-3(f-2)	7.201
	7-3f-6
Evaluate:	
-5 + (-4) - 1	
	-10
Solve:	
$63 \div c = 9$	c= 1
Simplify:	
2(s-1)+4+5s	7-12
	75+3
Simplify:	
8m - 9(m + 2)	19.9
	17m + 2
Solve:	
3 ft. = 1 yd.	
ft. = 9 yds.	27
II.	27
Evaluate:	
4 - (-2) + 8	14
	17
Simplify:	
2k+3-5(k+7)	3K+10
	JETIV
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Anna Page 1		
Solve:		
10-6=g	g= 4	
Simplify:	<u>.</u>	
9 - 4d + 2 + 7d	11+3d	
Simplify:		
5(b-3) - b	46-3	
Solve:		
$q \bullet 5 = 30$	<i>q</i> = 6	
Evaluate:		
8-(-6)-4	10	
Simplify:		
2 + w(w - 5)		
Solve:		
1 ft. =12 in.		
5 ft. = in.		
Simplify:		
4 - 7b + 5(b - 1)	4-76+56-5	
Simplify:		
s+2s-4s		
Solve:		
x + 4 = 7	x= 3	
Simplify:		
-5(q+3)+9	-59-15+9	
Evaluate:		
9+(-3)-8	2	
Solve:		
$\frac{12}{12} = \frac{48}{12}$	14A	
$\frac{1}{2} = \frac{1}{m}$	<i>m</i> =	
Simplify: $y^2 + y - 4y + 3y^2$		
Simplify:		
3(c+2)-2c	6+0	

$\begin{array}{c c} m & m = 24 \\ \hline \text{uate:} \\ + 5 + 8 \\ \hline \text{plify:} \\ 2(x - 5) - 3 \\ \hline \text{re:} \\ 5 = 4 \\ plify: \\ + f) - 2f + 6 \\ \hline \text{plify:} \\ 2b + 4(b + 3) \\ \hline \text{re:} \\ \text{s.} = 1 \text{ gal.} \\ _ \text{qts.} = 3 \frac{1}{4} \text{ gals.} \\ \hline \text{plify:} \\ + 1) - 8y \\ \hline \text{tuate:} \\ -7 + (-3) \\ \hline \text{re:} \\ \text{es.} \\ \text{s.} = 1 \text{ gal.} \\ _ \text{qts.} = 3 \frac{1}{4} \text{ gals.} \\ \hline \text{plify:} \\ + 1) - 8y \\ \hline \text{tuate:} \\ -7 + (-3) \\ \hline \text{re:} \\ \text{es.} \\ \text{s.} = s \\ \text{s.} \\ \text{s.} = \frac{1}{6} \\ \hline \text{simplify:} \\ \frac{15}{6} - \frac{1}{9} \\ \text{simplify:} \\ \frac{15}{6} - \frac{1}{9} \\ \hline \text{simplify:} \\ \frac{1}{6} - \frac{1}{9} \\ \hline \text{simplify:} \\ \frac{1}{2} \\ \frac{1}{9} \\ \hline \text{simplify:} \\ 1$	gebra Basic Skills 1		Solve:	Ann
2.7 $\overline{3} = \overline{9}$ $h =$ huate: $+5 + 8$ Simplify: $7b - 4 - 3 - 2b$ Simplify: $7b - 4 - 3 - 2b$ plify: $2(x - 5) - 3$ $d =$ q re: $5 = 4$ $d =$ q plify: $+f) - 2f + 6$ Solve: $6 + 7 = v$ $v =$ plify: $2b + 4(b + 3)$ Evaluate: $-5 + 6 - 6$ $v =$ plify: $2b + 4(b + 3)$ Solve: $2.5 \text{ cm.} = 1 \text{ in.}$ $_ \text{ cm.} = 6 \text{ in.}$ Simplify: $4 + 10(1 - r)$ ve: $s = 1 \text{ gal.}$ $_ qts. = 3 \frac{1}{4} \text{ gals.}$ Solve: $2.5 \text{ cm.} = 1 \text{ in.}$ $_ \text{ cm.} = 6 \text{ in.}$ plify: $re:$ $= s$ $s =$ 6 plify: $re:$ $= s$ $s =$ 6 plify: $re:$ $= 28$ $r =$ 7 plify: $-2(t - 4) - 3t$				
uate: $+5+8$ Simplify: $7b-4-3-2b$ plify: $2(x-5)-3$ Simplify: $2j-3(j-4)$ re: $5=4$ $d=$ $5=4$ $d=$ plify: $+j)-2j+6$ Solve: $6+7=v$ plify: $2b+4(b+3)$ Evaluate: $-5+6-6$ plify: $2b+4(b+3)$ Solve: $2.5 \text{ cm} = 1 \text{ in.}$ $_ \text{ cm} = 6 \text{ in.}$ plify: $+1)-8y$ Simplify: $4+10(1-r)$ hate: $-7+(-3)$ Solve: $50' = 10$ $j = 10$ $2 + 5 + 12$ plify: $4(v+2)$ Solve: $50' = 10$ $j = 10$ $2 - 3c - c$ plify: $-2(t-4)-3t$ $r =$ plify: $-2(t-5)+(-8)$ $r =$ plify: $-2(t-5)+(-8)$ $r =$ plify: $-2(t-5)+(-8)$ $r =$	• $8 = m$	^{<i>m</i>=} 24		h =
$+ 5 + 8$ $7b - 4 - 3 - 2b$ plify: $2(x - 5) - 3$ re: $5 = 4$ $d = 9$ plify: $2j - 3(j - 4)$ solve: $6 + 7 = v$ $v =$ plify: $2j - 3(j - 4)$ ve: $5 = 4$ $d = 9$ plify: $4 = 9$ $v =$ plify: $2j - 3(j - 4)$ $v =$ plify: $4 = 9$ $v =$ plify: $2j - 3(j - 4)$ $v =$ solve: $5 - 6 - 6$ $s = 1 gal$ $-5 + 6 - 6$ plify: $-1 + 4 + 10(1 - r)$ $s = 2.5 cm = 1 in$ $cm = 6 in$ plify: $-7 + (-3)$ $cm = 6 in$ $simplify: 6a + 2a - 9 + 3a^2$ $a + 2a - 9 + 3a^2$ plify: $r = 7$ $solve:$ $solve:$ $solve:$ $solve:$ $v' + 5w^2 - 5 + 12$ $j =$ $simplify: 2c - 3c - c$ $simplify: 2c - 3c - c$ $solve:$ $v' + 2$ $v =$ $solve:$ $h =$ $b =$ $v' + 2$ $v =$ $solve:$ $h =$ $b =$ $v' + 5w^2 - 5 + 12$ $v = 7$ $solve:$	valuato:	,	•	
plify: $2(x-5)-3$ re: $5=4$ $d=9$ plify: $d=9$ plify: $f=7=v$ $v=1$ Evaluate: $-5+6-6$ plify: $2b+4(b+3)$ $4+10(1-r)$ re: $s=1$ gal. $-gts=3/4$ gals.				
2(x-5)-3 $2j-3(j-4)$ Solve: 6+7=v $v =$ Evaluate: -5+6-6 Simplify: 2b+4(b+3) re: s. = 1 gal. $-gts. = 3 /4 gals.$ Plify: +1)-8y Huate: -7+(-3) re: =s $s = 6$ Solve: 2.5 cm. = 1 in. $- cm. = 6 in.$ Simplify: $6a+2a-9+3a^2$ Evaluate: -1+4+(-7) Solve: 50v: $2-1+4+(-7)$ Solve: 50v: $50v:$ $-1+4+(-7)$ Solve: -1+4+(-7) Solve: $50v:$ $50v:$ $500 = \frac{10}{2}$ $j =$ Simplify: -3(u+3)-2u+5 Simplify: -3(u+3)-2u+5 Solve: h+6=8 $h =$ Evaluate: -2+(-5)+(-8) Simplify: -2+(-5)+(-8) Simplify:	9+5+8		10-4-3-20	
2(x-5)-3 $2j-3(j-4)$ Solve: 6+7=v $v =$ Evaluate: -5+6-6 Simplify: 2b+4(b+3) re: s. = 1 gal. $-gts. = 3 /4 gals.$ Plify: +1)-8y Huate: -7+(-3) re: =s $s = 6$ Solve: 2.5 cm. = 1 in. $- cm. = 6 in.$ Simplify: $6a+2a-9+3a^2$ Evaluate: -1+4+(-7) Solve: 50v: $2-1+4+(-7)$ Solve: 50v: $50v:$ $-1+4+(-7)$ Solve: -1+4+(-7) Solve: $50v:$ $50v:$ $500 = \frac{10}{2}$ $j =$ Simplify: -3(u+3)-2u+5 Simplify: -3(u+3)-2u+5 Solve: h+6=8 $h =$ Evaluate: -2+(-5)+(-8) Simplify: -2+(-5)+(-8) Simplify:	mplify:		Simplify:	
5 = 4 $d = 9$ $for all for all for$	+2(x-5)-3			
5 = 4 $d = 9$ $for all for all for$	olve:		Solve:	
$+fj - 2f + 6$ $-5 + 6 - 6$ plify: $2b + 4(b + 3)$ $2b + 4(b + 3)$ $simplify:$ $2b + 4(b + 3)$ $simplify:$ $-gts = 3$ $gals$ $-gts = 3$ $4gals$ $plify:$ $-5 + 6 - 6$ $-gts = 3$ $4gals$ $plify:$ $-gts = 3$ $-gts = 3$ $4gals$ $plify:$ $-fts = 6$ $-gts = 3$ $4gals$ $plify:$ $-fts = 6$ $-7 + (-3)$ $afts = 2a - 9 + 3a^2$ $blify:$ $fts = 6a$ $plify:$ $fts = 6a$ $-fts = 7$ $fts = 10$ $plify:$ $fts = 7$ $plify:$ $fts = 7$ $plify:$ $r = 7$	-5 = 4	d= 9		v =
$+fj - 2f + 6$ $-5 + 6 - 6$ plify: $2b + 4(b + 3)$ $2b + 4(b + 3)$ $simplify:$ $2b + 4(b + 3)$ $simplify:$ $-gts = 3$ $gals$ $-gts = 3$ $4gals$ $plify:$ $-5 + 6 - 6$ $-gts = 3$ $4gals$ $plify:$ $-gts = 3$ $-gts = 3$ $4gals$ $plify:$ $-fts = 6$ $-gts = 3$ $4gals$ $plify:$ $-fts = 6$ $-7 + (-3)$ $afts = 2a - 9 + 3a^2$ $blify:$ $fts = 6a$ $plify:$ $fts = 6a$ $-fts = 7$ $fts = 10$ $plify:$ $fts = 7$ $plify:$ $fts = 7$ $plify:$ $r = 7$	implify:		Evaluate:	
2b + 4(b + 3) $4 + 10(1 - r)$ $re:$ $s = 1$ gal.	(3+f) - 2f + 6			
2b + 4(b + 3) $4 + 10(1 - r)$ $re:$ $s = 1$ gal.	implify		Simplify	
s. = 1 gal. qts. = 3 ½ gals. 2.5 cm. = 1 in. cm. = 6 in. plify: +1) - 8y Simplify: $6a + 2a - 9 + 3a^2$ luate: -7 + (-3) Evaluate: -1 + 4 + (-7) re: =s s = 6 plify: $p^2 + 5w^2 - 5 + 12$ Solve: $\frac{500}{j} = \frac{10}{2}$ plify: 4(v + 2) Simplify: -3(u + 3) - 2u + 5 ve: 28 r = 7 plify: -2(t - 4) - 3t s = 7 plify: r = 7 plify: Solve: h + 6 = 8 - 2 + (-5) + (-8) Simplify: -2 + (-5) + (-8)	-2b + 4(b + 3)			
s. = 1 gal. qts. = 3 ½ gals. 2.5 cm. = 1 in. cm. = 6 in. plify: +1) - 8y Simplify: $6a + 2a - 9 + 3a^2$ luate: -7 + (-3) Evaluate: -1 + 4 + (-7) re: =s s = 6 plify: $p^2 + 5w^2 - 5 + 12$ Solve: $\frac{500}{j} = \frac{10}{2}$ plify: 4(v + 2) Simplify: -3(u + 3) - 2u + 5 ve: 28 r = 7 plify: -2(t - 4) - 3t s = 7 plify: r = 7 plify: Solve: h + 6 = 8 - 2 + (-5) + (-8) Simplify: -2 + (-5) + (-8)	olve:		Solve	
$\begin{array}{c c} _ qts. = 3 \frac{1}{4} \text{ gals.} \\ \hline \\ plify: \\ + 1) - 8y \\ \hline \\ luate: \\ -7 + (-3) \\ \hline \\ re: \\ = s \\ s = 6 \\ \hline \\ plify: \\ r^2 + 5w^2 - 5 + 12 \\ \hline \\ plify: \\ 4(v + 2) \\ \hline \\ re: \\ 28 \\ r = 7 \\ \hline \\ plify: \\ -2(t - 4) - 3t \\ \hline \\ plify: \\ \hline \\ \\ re: \\ -2 + (-5) + (-8) \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $				
$i + 1$) $-8y$ $6a + 2a - 9 + 3a^2$ $i + 1$) $-8y$ $i + 1$ $i + 1$) $-8y$ $i + 1$ $i + 1$ $-3a^2$ $i + 1$	$q_{15.} = 1 g_{a1.}$ qts. = 3 ¼ gals.			
$i + 1$) $-8y$ $6a + 2a - 9 + 3a^2$ $i + 1$) $-8y$ $i + 1$ $i + 1$) $-8y$ $i + 1$ $i + 1$ $-3a^2$ $i + 1$				
$ \begin{array}{c} -7 + (-3) \\ \hline re: \\ = s \\ \hline s = 6 \\ \hline \\ plify: \\ w^2 + 5w^2 - 5 + 12 \\ \hline \\ plify: \\ 4(v + 2) \\ \hline \\ re: \\ = 28 \\ \hline \\ r = 7 \\ \hline \\ plify: \\ \hline \\ -2(t - 4) - 3t \\ \hline \\ plify: \\ \hline \\ \\ \hline \\ \\ plify: \\ \hline \\ \\ \hline \\ \\ \\ \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	implify: $(y+1) - 8y$			
$ \begin{array}{c} -7 + (-3) \\ \hline re: \\ = s \\ \hline s = 6 \\ \hline \\ plify: \\ w^2 + 5w^2 - 5 + 12 \\ \hline \\ plify: \\ 4(v + 2) \\ \hline \\ re: \\ = 28 \\ \hline \\ r = 7 \\ \hline \\ plify: \\ \hline \\ -2(t - 4) - 3t \\ \hline \\ plify: \\ \hline \\ \\ \hline \\ \\ plify: \\ \hline \\ \\ \hline \\ \\ \\ \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	valuata		Evaluate	
$s = 6$ $s = 6$ $\frac{500}{j} = \frac{10}{2}$ $j =$ $\frac{500}{j} = \frac{10}{2}$ $j =$ $\frac{500}{j} = \frac{10}{2}$ $j =$ $\frac{500}{j} = \frac{10}{2}$ $\frac{10}{2}$ 10	4 - 7 + (-3)			_
plify: Simplify: $v^2 + 5w^2 - 5 + 12$ Simplify: plify: $-3(u+3) - 2u + 5$ ve: $2c - 3c - c$ ve: 28 r = 7 Solve: plify: $-2(t-4) - 3t$ plify: $2 + (-5) + (-8)$ Simplify: $-2 + (-5) + (-8)$ Simplify: Simplify:	olve:		Solve:	
plify: Simplify: $v^2 + 5w^2 - 5 + 12$ Simplify: plify: $-3(u+3) - 2u + 5$ ve: $2c - 3c - c$ ve: 28 r = 7 Solve: plify: $-2(t-4) - 3t$ plify: $2 + (-5) + (-8)$ Simplify: $-2 + (-5) + (-8)$ Simplify: Simplify:	6	1	500 10	
$w^2 + 5w^2 - 5 + 12$ $-3(u+3) - 2u + 5$ plify: Simplify: $4(v+2)$ $simplify:$ $ve:$ $solve:$ 28 $r = 7$ plify: $bit = 8$ $-2(t-4) - 3t$ $bit = 8$ plify: $-2 + (-5) + (-8)$ Simplify: $-2 + (-5) + (-8)$	$\frac{6}{6} = s$	s= 6	$\left \frac{1}{j} \right = \frac{1}{2}$	<i>j</i> =
$w^2 + 5w^2 - 5 + 12$ $-3(u+3) - 2u + 5$ plify: Simplify: $4(v+2)$ $simplify:$ $ve:$ $solve:$ 28 $r = 7$ plify: $bit = 8$ $-2(t-4) - 3t$ $bit = 8$ plify: $-2 + (-5) + (-8)$ Simplify: $-2 + (-5) + (-8)$	implify:		Simplify:	
4(v+2) $2c-3c-c$ $ve:$ $Solve:$ 28 $r = 7$ plify: $belline:$ $-2(t-4) - 3t$ $belline:$ $plify:$ $belline:$	$3w^2 + 5w^2 - 5 + 12$			
4(v+2) $2c-3c-c$ $ve:$ $Solve:$ 28 $r = 7$ plify: $belline:$ $-2(t-4) - 3t$ $belline:$ $plify:$ $belline:$	implify:		Simplify:	
28 $r = 7$ $h \div 6 = 8$ $h =$ plify: $-2(t-4) - 3t$ $-2 \div (-5) \div (-8)$ $-2 \div (-5) \div (-8)$ plify: Simplify: Simplify:	-4(v+2)			2
28 $r = 7$ $h \div 6 = 8$ $h =$ plify: $-2(t-4) - 3t$ $-2 \div (-5) \div (-8)$ $-2 \div (-5) \div (-8)$ plify: Simplify: Simplify:	olve:		Solve:	
plify:Evaluate: $-2(t-4) - 3t$ $-2 + (-5) + (-8)$ plify:Simplify:	r = 28	r = 7		h =
$ \frac{-2(t-4) - 3t}{\text{plify:}} \qquad $	20	· /	$n \neq 0 = 0$	<i>rı</i> — 4
$ \frac{-2(t-4) - 3t}{\text{plify:}} \qquad $	implify:	-		
	6+2(t-4)-3t		-2+(-5)+(-8)	
	implify:		Simplify:	
	-3(c+2)+8		3z - 8z + 2 + 9	

Algebra Basic Skills 1 KEY		
Solve:		ſ
9 + a = 15	<i>a</i> =	6
Evaluate:		
12 + (-8) + 3		7
Simplify:		
2x + 4 + 3x + 5		5x + 9
Solve:		
12 - k = 4	<i>k</i> =	8
Simplify:		
4(3+s) - 7		4s + 5
<u> </u>		
Simplify:		
b+b+2b		4 <i>b</i>
C a lava a		
Solve:		
$\frac{r}{6} = \frac{12}{18}$	<i>r</i> =	4
6 18		
C'		
Simplify: $7 - 2(f - 2)$		2f + 12
7 - 3(f - 2)		-3f + 13
Evaluate:		
-5 + (-4) - 1		- 10
Solve:		
$63 \div c = 9$	<i>c</i> =	7
Simplify:		
2(s-1) + 4 + 5s		7s + 2
<u> </u>		
Simplify:		10
8m - 9(m + 2)		-m - 18
Solve:		
3 ft. = 1 yd.		27
ft. = 9 yds.		<i>21</i>
1 > 5.00.		
Evaluate:		
4 - (-2) + 8		14
		-
Simplify:		
2k + 3 - 5(k + 7)		-3k-32
1		

	Page 1
Solve:	
10 - 6 = g	<i>g</i> = 4
Simplify:	
9 - 4d + 2 + 7d	3 <i>d</i> + 11
Simplify:	
5(b-3) - b	4b - 15
Solve:	
$q \bullet 5 = 30$	<i>q</i> = 6
Evaluate:	
8 - (- 6) - 4	10
Simplify:	
2 + w(w - 5)	w^2-5w+2
Solve:	
1 ft.=12 in.	60
5 ft.= in.	
Simplify:	
4 - 7b + 5(b - 1)	- 2 <i>b</i> - 1
Simplify:	
s+2s-4s	- <i>s</i>
Solve:	
<i>x</i> + 4 = 7	<i>x</i> = 3
Simplify:	
-5(q+3)+9	- 5q - 6
Evaluate:	
9 + (- 3) - 8	- 2
Solve:	
$\frac{12}{12} = \frac{48}{12}$	_
$\frac{1}{2} = \frac{m}{m}$	<i>m</i> = 8
Simplify:	
$y^2 + y - 4y + 3y^2$	$4y^2 - 3y$
Simplify:	
3(c+2) - 2c	<i>c</i> + 6

Algebra Basic Skills 1 KEY		
Solve:		
$3 \cdot 8 = m$	m =	24
Evaluate:		
-9+5+8		4
Simplify:		
x + 2(x - 5) - 3	3 <i>x</i>	- 13
Solve:		
d - 5 = 4	d =	9
Simplify:		
5(3+f) - 2f + 6	3f	+ 21
Simplify:		
5-2b+4(b+3)	2b	+ 17
Solve:		
4 qts. = 1 gal.		13
$_{}^{}$ qts. = 3 ¼ gals.		
Simplify:		
4(y+1) - 8y	- 4	y + 4
Evaluate:		
14 – 7 + (– 3)		4
Solve:		
$\frac{36}{5} = s$		
6	<i>s</i> =	6
Simplify:		? _
$-3w^2 + 5w^2 - 5 + 12$	2w	² + 7
Simplify:		
9 - 4(v + 2)	- 4	v + 1
Solve:		
4r = 28	<i>r</i> =	7
Simplify:		
16 + 2(t - 4) - 3t	—	<i>t</i> + 8
Simplify:		
c - 3(c + 2) + 8	- 2	<i>c</i> + 2

	Page 2
Solve:	
$\frac{1.5}{1.5} = \frac{h}{1.5}$	<i>h</i> = 4.5
3 9	
Simplify:	51. 7
7b - 4 - 3 - 2b	5 <i>b</i> – 7
Simplify:	
2j - 3(j - 4)	-j + 12
	y
Solve:	
6 + 7 = v	<i>v</i> = 13
_	
Evaluate:	_
-5+6-6	- 5
Simplify:	
4 + 10(1 - r)	-10r + 14
Solve:	
2.5 cm. = 1 in.	15
$_\ cm. = 6 in.$	
Simplify:	
$6a + 2a - 9 + 3a^2$	$3a^2 + 8a - 9$
Evaluate:	
-1 + 4 + (-7)	- 4
Calmar	
Solve:	
$\frac{500}{i} = \frac{10}{2}$	<i>j</i> = 100
j 2 Simplify	
Simplify: $-3(u+3) - 2u + 5$	- 5 <i>u</i> - 4
-3(u+3)-2u+3	– <i>3u</i> – 1
Simplify:	
2c-3c-c	-2c
Solve:	
$h \div 6 = 8$	h = 48
Evaluate:	
-2 + (-5) + (-8)	- 15
Simplify:	
3z - 8z + 2 + 9	-5z + 11

Write a word phrase for this expression: <i>s</i> • 9	Evaluate: (2 + 6)(- 5)	Simplify: 8 – 3 <i>h</i> + 2 + 5 <i>h</i>	Evaluate: 1 + 4 • 3	Algebra Foundations 6 Find the ordered pair for each point: P(,) S(,) P(,) S(,) $\frac{5}{4}$
Evaluate: 10 ÷ 2 + 3 - 4	Evaluate $14 - 2g$ when g = 6 g = -5	Write a word phrase for this expression: 7-d	If <i>r</i> < 8, two possible values for <i>r</i> are and	Fill in the empty box:Fill in the empty box: p $2p \div 3$ g 6 -1 -1 9 6 -1 12 8 -1 15 10 5
Solve: 4 <i>c</i> = 32 <i>c</i> =	Write the expression for this phrase: <i>a number added to 5</i>	Evaluate: 6 ²	Graph the expression $b \ge 3$ ++++++++++++++++++++++++++++++++++++	Fill in the empty box: j $4j-1-1-1-1-1-1-1-1$
If $(s \div 3) - 2 \ge 4$, two possible values for s are and	Evaluate: $\sqrt{9}$	Solve: 9 - 4 = w w =	Write the expression for this phrase: <i>a number multiplied by 6</i>	Page 1

	-			
Write a word phrase for this expression: 14 + c	Evaluate $30 \div (2j)$ when j = 5 j = 3	Solve: 9+5=a a=	Simplify: 6 <i>u</i> + 3(<i>u</i> + 1) + 4	Algebra Foundations 6
Solve: r ÷ 4 = 3 r =	Evaluate: - 15 ÷ (9 - 6)	Write a word phrase for this expression: $\frac{4}{b} - 8$	Evaluate: 12 ÷ (- 4)	Fill in the empty box: a -3 -10 -3 -4 -1 -1 -1 -1 -1 -1 -1 -1
Evaluate: $(9-5)^2 \cdot 2 \div 4$	Simplify: (k+9k)+3k	this Evaluate: $(-3)^3$	Write the expression f phrase: 10 less than a number	Fill in the empty box: box: $\frac{W}{2} - \frac{5W - 3}{-2} - \frac{13}{-13}$ $\frac{4}{37} - \frac{17}{12}$
	р 2	N 4	or this	
Evaluate $3r \div 2s$ when $r = -6$ and $s = 3$	Write the expression for this phrase: 2 more than a number divided by 3	Simplify: 4 + 2(<i>s</i> – 6)	Graph the expression <i>d</i> < − 2 < 	Page 2 Page 2 Pa

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26-14	=-2 2	minus a number g=	6
6-2(b-4)	g = 2	7	x = 2 and $y = -3$
Simplify:	Evaluate $8g - 4$ when	d phrase for this	Evaluate $2x + 4y$ when
ч Х	0	7-4 7	
9 multiplied by a number	Q		n+9 on when
Write the expression for this phrase:	Evaluate: $(-2)^3$		d phrase for this
	0	6-X	b=3 /4
4 4 1 1		han a number	b=1
Graph the expression $m > -5$	Evaluate: $(-2) \cdot (-4)$	Write the expression for this E-phrase: (-	Evaluate $4b + 2$ when
5 U	101	81-	
Solve: n+3=8	Simplify: 7f + (2f + f)	Evaluate:Si $9 \cdot 4 - 6$ $7t$	If $y > 9$, two possible values for y are 10 and 20
What is the <i>y</i> -intercept? 2			
What is the slope? 1/2			4
	5 3 2 0	4	
	0 -2 -5	6 18 -1 3 7 21 -2 15	
	+7 b b+3	$\frac{s}{3s}$ $\frac{3s}{n}$ $\frac{4n+7}{3}$	J(3,1) O(1,2)
	box:	Fill in the empty box: Fill in the empty	Find the ordered pair for each point:
B: Page 1			Algebra Foundations 1

OSEP Award# H324C030060	Write a word phrase for thisEvaluate:expression: $(-3)(9 - h \cdot 5)$	If $2a + 4 < 20$, two possibleSolve:values for a are and $24 \div x = 6$		Write a word phrase for this expression: $x \div 4$ A number divided by 4 Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control Control C	Algebra Foundations 1 Fill in box: What is the y-intercept? -1
	7)	= 6	the expression $p \le 3$ + $p \le 1$ + $p \le 1$ + $p \le 1$ + $p \le 3$ - $4 - 2 = 0 - 2 - 4 - 6 = 8$	Q + 5	the empty Fill in the observation $n-2$ for the empty box: n-2 for the observation 10 for
	Evaluate: $\sqrt{81}$	Evaluate: 10 – 3 + 8 ÷ 2	Simplify: 9x - 3 + 4(x + 9) 13x + 6	Write the expression for this phrase: 8 more than twice a number 8 X 2N	empty Fill in the empty $t-7$ h $h_{t}7$ -11 -5 2 -3 1 8 -3 1 8 5 12 12 13 10 17
© 2009, Project AAIMS, Iowa State University	Solve: 6t = 36 t =	Simplify: 12 <i>n</i> - 5 + 3 - 7 <i>n</i>	Write the expression for this phrase: <i>10 divided by a number</i>	Solve: 15 - 8 = x x = 7	What is the slope? -2 What is the y-intercept? 2

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-2b + 14	t = -2 - 20	Seven less than ten g	8-
Simplify: 6-2(b-4)	Evaluate $8g - 4$ when $g = 2$ 12	Write a word phrase for this expression: $10b - 7$	Evaluate $2x + 4y$ when $x = 2$ and $y = -3$
<u>9n</u>	- 8	3	Nine more than a number
Write the expression for this phrase: 9 multiplied by a number	Evaluate: (– 2) ³	Evaluate: I $4 + (9 \div 3) - 2^2$ (Write a word phrase for this expression: n+9
	×	n-6	<i>b</i> = 3 14
-8 -6 -4 -2 0 2 4 6 8	(-2) • (-4)	phrase: () 6 less than a number	b = 16
Graph the expression $m > -5$	Evaluate:	ne expression for this	Evaluate $4b + 2$ when
JI	10f	30	Any number greater than 9
Solve: n + 3 = 8 n =	Simplify: 7f + (2f + f)	Evaluate: $9 \cdot 4 - 6$	If <i>y</i> > 9, two possible values for <i>y</i> are and
What is the <i>y</i> -intercept? 1			
What is the slope?			
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	J(3,-1) O(1,2)
Page 1	npty Fill in the empty box:	Fill in the empty box: Fill in the empty	Algebra Foundations 1 KEY Find the ordered pair for each point:

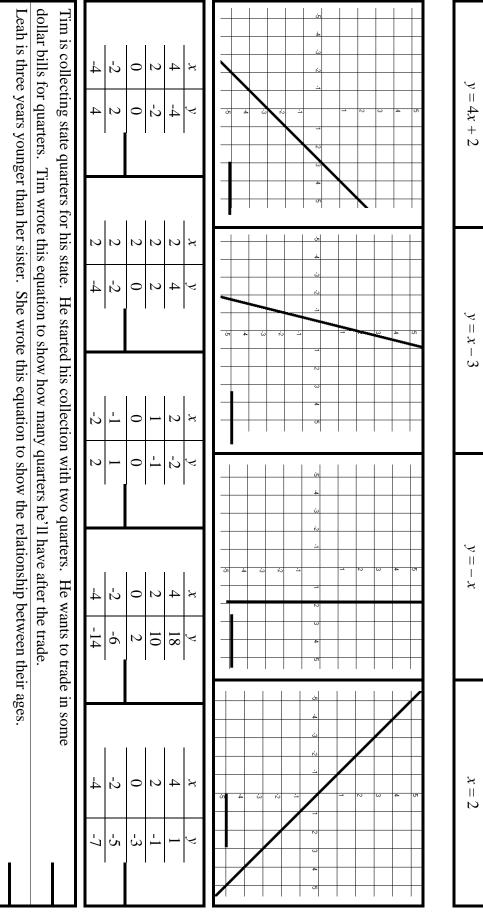
Solve: $15 - 8 = x$ 7 $x =$ $x =$ 7Write the expression for this phrase: 10 divided by a number $\frac{10}{n}$ Simplify: $12n - 5 + 3 - 7n$ $\frac{10}{5n - 2}$ Solve: $6t = 36$ $t =$ $5n - 2$	Write the expression for this phrase: 8 more than twice a number 2n + 8 Simplify: 9x - 3 + 4(x + 9) 13x + 33 Evaluate: $10 - 3 + 8 \div 2$ $10 - 3 + 8 \div 2$ Evaluate: $\sqrt{81}$ 5	Evaluate: $(-12 \div 4) + 5$ 2 Graph the expression $p \le 3$ At the expression $p \le 3$ Solve: $24 \div x = 6$ $x = 4$ Evaluate: $(-3)(9 - 7)$ At the expression $p \le 3$ At the expr	Write a word phrase for this expression: $x \div 4$ A number divided by four Evaluate: 4^2 If 2a + 4 < 20, two possible values for <i>a</i> are and <u>Any number less than 8</u> Write a word phrase for this expression: $h \bullet 5$ A number multiplied by five
What is the y-intercept? 2	e empty 2t - 7 -11 -3 13 13 Fill in the empty box: h h + 7 -5 2 1 1 1 1 1 1 1 1	empty Fill in the e box: $\begin{array}{c} 2n \div 3 \\ 4 \\ 6 \\ 8 \\ 10 \\ 10 \\ \hline 10 \\ \hline 10 \\ \hline 10 \\ \hline \end{array}$	Algebra Foundations 1 KEY Algebra Foundations 1 KEY 4 3 2 4 3 2 4 4 3 2 4 4 4 4 4 4 4 4 4 4

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y = -x	C	
x = 2	D	

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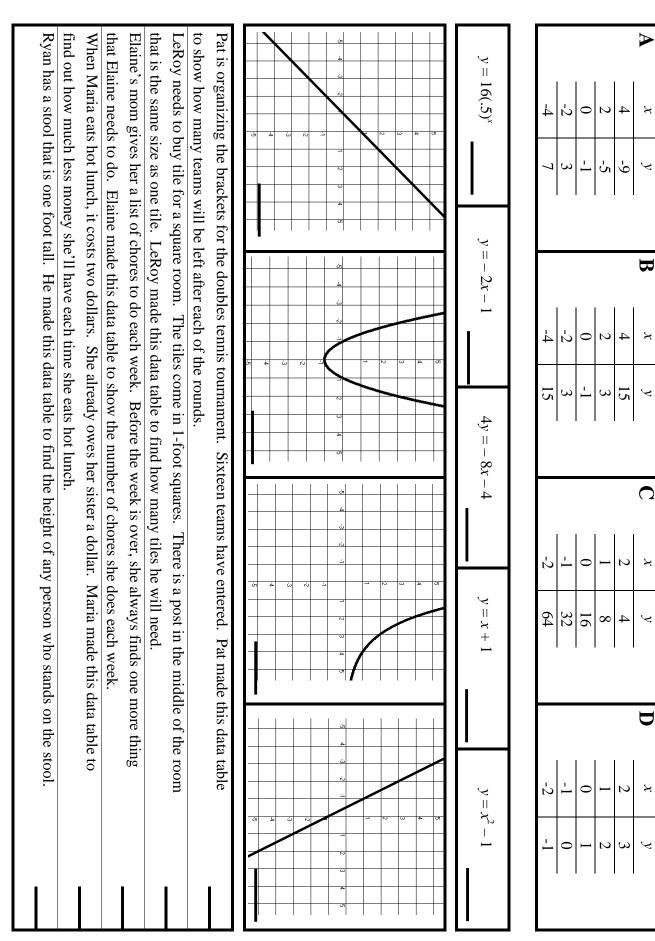


wrote this equation to show how her total quiz points would be related to the score she gets on each quiz. Sam is planning a basketball tournament. He wrote this equation to show the relationship between the number of teams in Every time Joel gets home after curfew, he loses a chance to use the car. Joel wrote this equation to show the relationship Teresa has taken four quizzes and gotten the same score on each one. She also has two extra credit points. the championship game and the total number of teams in the tournament. between breaking curfew and his chances to use the car. . Teresa

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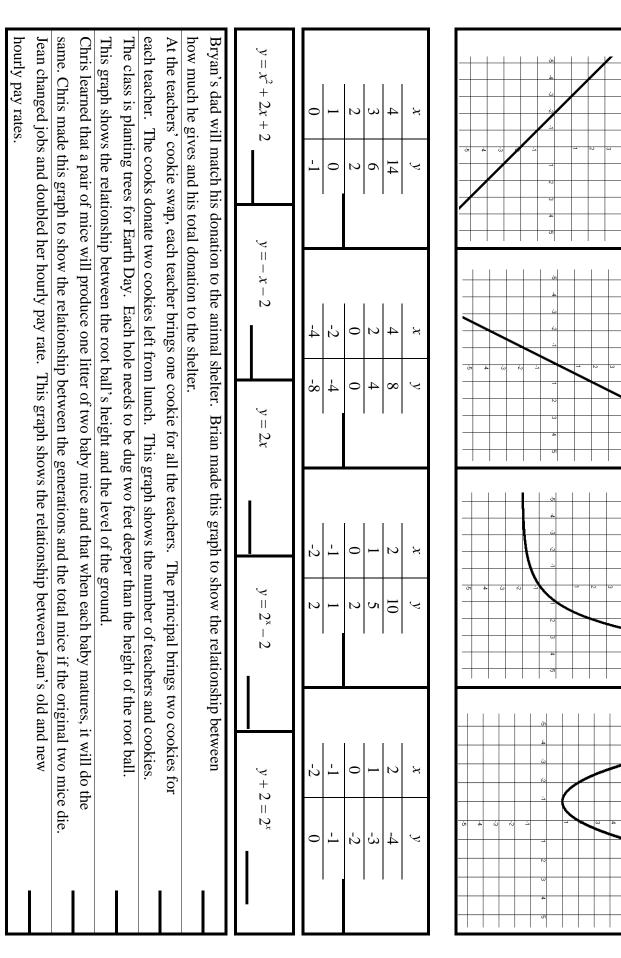
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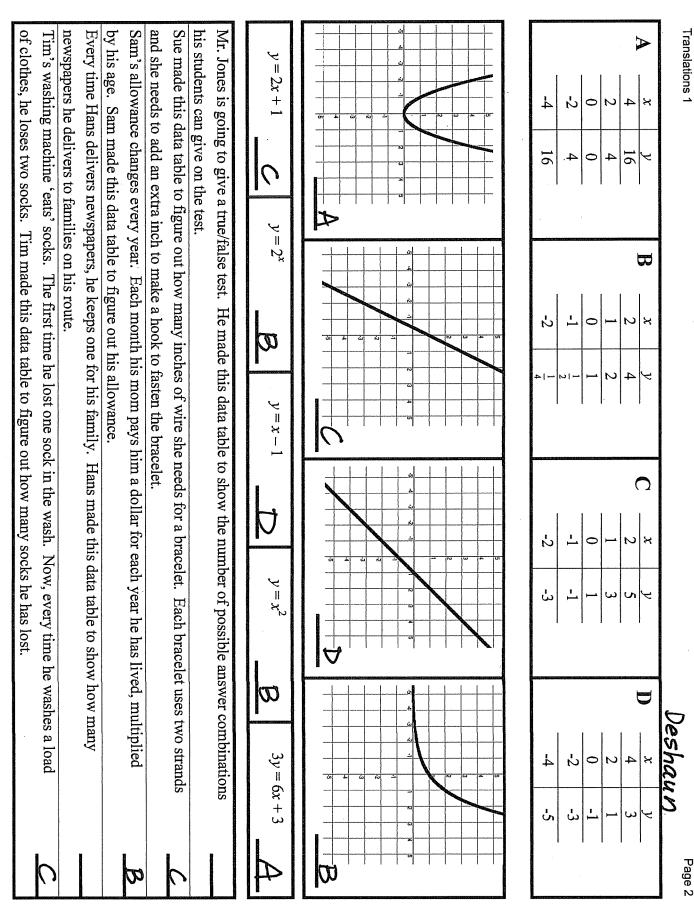
Translations 1	ש י	2	Page 1 Deshaun
$\mathbf{A} \qquad \mathbf{y} = \mathbf{x}$	B $y = 2x - 1$	C y = 1.5	D $y = -x + 1$
$\begin{array}{c cccc} x & y \\ \hline 2 & 1.5 \\ \hline 1 & 1.5 \\ \hline -1 & 1.5 \\ -2 & 1.5 \\ \hline \end{array}$	$ \frac{-2}{2} + \frac{1}{2} + $	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c c} x & y \\ \hline & -2 & -1 \\ \hline & -2 & 3 \\ \hline & & \end{array}$
Mark needs to find half the wid inches. He wrote this equation Every day that Cindy waters the the number of days she waters t	Mark needs to find half the width of pieces of pipe he is cutting to make a soccer goal. The inches. He wrote this equation to show the relationship between the length and the width Every day that Cindy waters the garden, she earns a dollar. She wrote this equation to she the number of days she waters the garden and the number of dollars she will earn.	sh ffi 1	he width of the pipe is 3 $\frac{4}{2}$ of the pieces he will cut. Sow the relationship between $\frac{4}{2}$
borrows from his friends for lu The class earns \$2 for each may processing fee. Cindy wrote th	borrows from his friends for lunch and the total amount of money he has or owes. The class earns \$2 for each magazine subscription sold in the fund-raiser. A \$1 fee per st processing fee. Cindy wrote this equation to show the relationship between the number o	ee per st umber o	udent is charged for a f
this equation to show the relation	this equation to show the relationship between the number of days and the height of the right of	to show the relationship between the number of days and the height of the river compared to flood stage	© 2009 Project AAIMS Towa State University
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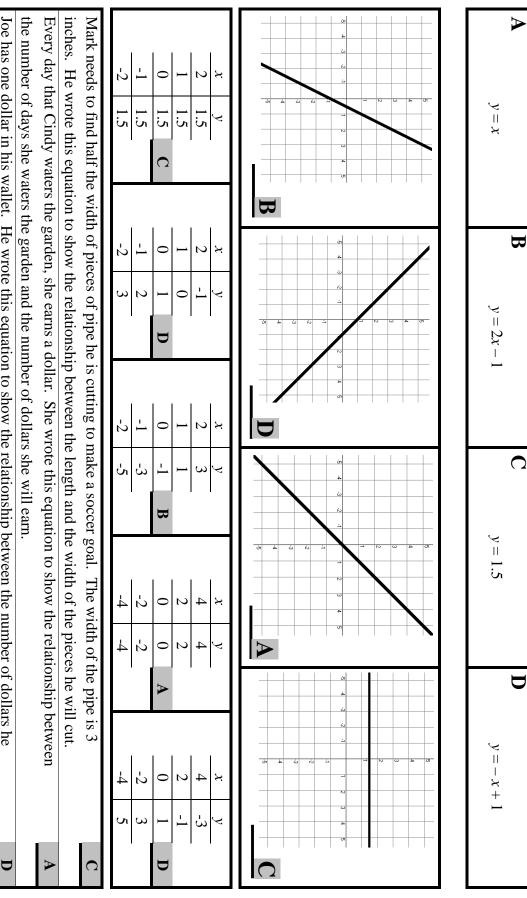


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Translations 1	B	C	Deshaun Page 3
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c cccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
y = -2x + 1	$y = x^2 + 2x$ A $y = 3^x$	$y = \frac{x^2 + 2x}{x(x+2)}$	$y = \frac{1}{2}x$
Matt built a maze for his gerl this graph to show the total p LaShaya's mom makes her s show how much money she	Matt built a maze for his gerbil. Each time the gerbil comes to an intersection, it can go three possible ways. this graph to show the total possible number of routes for the gerbil through the maze. LaShaya's mom makes her save half of what she earns in the summer for college. She made this graph to show how much money she will earn for her college fund this summer.	ersection, it can go three possible wa hrough the maze. r for college. She made this graph to er.	/ays. Matt made to
A diving board is one foot at board. Marcus made this gra	A diving board is one foot above the surface of the pool. An average diver drops twice his board. Marcus made this graph to show the diver's depth in the water.	liver drops twice his	height when he steps off the
Ming Hui has two cats, Osca show how much Otis eats.	Ming Hui has two cats, Oscar and Otis. She knows that Oscar eats twice as much as Otis. show how much Otis eats.	vice as much as Otis. She made this graph to	s graph to
add is the same height as the	add is the same height as the square, but only 2 feet wide. Tammy made this graph to show	Tammy made this graph to show the area of the backdrop.	he backdrop.

Page 1



	this equation to show the relationship between the number of days and the height of the river compared to flood stage.
D	The flood waters are receding at a rate of 1 foot per day. The river is currently at 1 foot above flood stage. Tom wrote
	processing fee. Cindy wrote this equation to show the relationship between the number of magazines sold and the profit.
В	The class earns \$2 for each magazine subscription sold in the fund-raiser. A \$1 fee per student is charged for a
	borrows from his friends for lunch and the total amount of money he has or owes.
D	Joe has one dollar in his wallet. He wrote this equation to show the relationship between the number of dollars he
	the number of days she waters the garden and the number of dollars she will earn.
A	Every day that Cindy waters the garden, she earns a dollar. She wrote this equation to show the relationship between
	inches. He wrote this equation to show the relationship between the length and the width of the pieces he will cut.
С	Mark needs to find half the width of pieces of pipe he is cutting to make a soccer goal. The width of the pipe is 3

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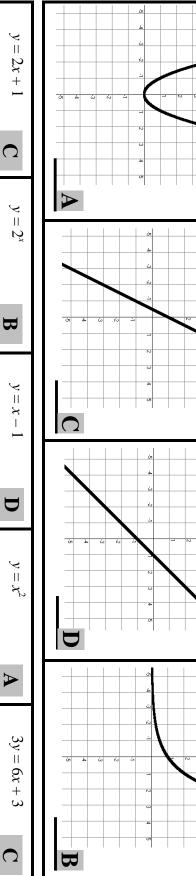
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Sue made this data table to figure out how many inches of wire she needs for a bracelet. Each bracelet uses two strands Mr. Jones is going to give a true/false test. He made this data table to show the number of possible answer combinations his students can give on the test.

Sam's allowance changes every year. Each month his mom pays him a dollar for each year he has lived, multiplied by his age. Sam made this data table to figure out his allowance. and she needs to add an extra inch to make a hook to fasten the bracelet.

newspapers he delivers to families on his route. Every time Hans delivers newspapers, he keeps one for his family. Hans made this data table to show how many

of clothes, he loses two socks. Tim made this data table to figure out how many socks he has lost. Tim's washing machine 'eats' socks. The first time he lost one sock in the wash. Now, every time he washes a load

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В

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	the backdrop.	n to show the area of the backdrop	made this graph	wide. Tammy	add is the same height as the square, but only 2 feet wide. Tammy made this graph to sho	eight as the squ	add is the same he
Α	piece she will	Tammy is making a backdrop for the school play. She needs to add on to a square piece of wood. The piece she will	d on to a square	She needs to ad	r the school play.	g a backdrop for	Tammy is making
I	1					Otis eats.	show how much Otis eats
В	is graph to	as Otis. She made this graph to	twice as much :	that Oscar eats	Ming Hui has two cats, Oscar and Otis. She knows that Oscar eats twice as much as Otis	o cats, Oscar an	Ming Hui has two
ĺ			ater	denth in the wa	hoard Marcus made this graph to show the diver's depth in the water	ade this granh t	hoard. Marcus m.
D	1 he steps off the	A diving board is one foot above the surface of the pool. An average diver drops twice his height when he steps off the	ge diver drops t	pool. An avera	the surface of the	one foot above	A diving board is
			mer.	e fund this sum	show how much money she will earn for her college fund this summer	noney she will	show how much r
В	1 to	LaShaya's mom makes her save half of what she earns in the summer for college. She made this graph to	ner for college.	rns in the sumn	half of what she ea	nakes her save	LaShaya's mom r
C	ways. Matt made	Matt built a maze for his gerbil. Each time the gerbil comes to an intersection, it can go three possible ways. Matt made this graph to show the total possible number of routes for the gerbil through the maze.	Intersection, it c: I through the ma	il comes to an i es for the gerbi	Matt built a maze for his gerbil. Each time the gerbil comes to an intersection, it can ξ this graph to show the total possible number of routes for the gerbil through the maze.	for his gerbil. v the total possi	Matt built a maze this graph to show
B	$y = \frac{1}{2}x$	y = x(x+2)	С	$y = 3^x$	$y = x^2 + 2x$	D y	y = -2x + 1
0	-2		-2	-2	-4	5	-2
-	-1	3 1	-1	-1	-2	ω	-1
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D

OSED A mard# U224C020060	a) Line A b) Line B c) Line C d) Line D	Which line on the graph is y - 3x = -2? B C D	a) $\frac{10}{9}$ b) 2 c) 1 d) -2		Algebra Content Analysis 11
	a) 5 b) 11 c) 10 d) 1	Evaluate $(x^3 - 7) \div 4 + y$ when $x = 3$ and $y = 5$	a) -2 b) $\frac{3}{5}$ c) $\frac{1}{2}$ d) 2	Find the slope of a line through (2, 6), (9, – 8)	
	a) $u^2 + 15u + 11$ b) $16u^2 + 1$ c) $16u + u^2$ d) $u^2 + 5u + 1$	Simplify: $10u + 6 + u^2 - 5 - 5u$	a) $-\frac{1}{8}$ b) $\frac{1}{6}$ c) -6 d) -8	Evaluate the expression: (-2) ³	
© 2000 Decient A AIMS Journ State University	a) $28a + 15$ b) $38a + 3$ c) $26a + 27$ d) $32a + 9$	Simplify: 2(6 – 2 <i>a</i>) + 5(6 <i>a</i> + 3)	a) $y-5 = 2(x-5)$ b) $y-5 = \frac{1}{2}(x+5)$ c) $y-5 = 2(x+5)$ d) $y = 2x + 15$	Write the equation of a line through (- 5, 5) (- 8, -1). Use point-slope form.	Page 1

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a) 44 b) 49 c) 26 d) - 5	Evaluate $-f + 5g^2 + 9$ when $f = 10$ and $g = 3$	a) $y = -x + \frac{2}{3}$ b) $3y = 2x + 1$ c) $y = \frac{2}{3}x - 1$ d) $y = \frac{2}{3}x + 1$	Algebra Content Analysis 11 Write the equation in slope-intercept form if $m = \frac{2}{3}$ and b = -1
a) $(0, 3)$ b) $(1, -6)$ c) $(2, 0)$ d) $(4, -3)$	Solve the linear system: 3x + 2y = 6 5x + 4y = 8	a) $\frac{f^3g^3}{f^3g^5}$ b) $\frac{f}{g^2}$ c) $\frac{f^2}{fg^2}$ d) $\frac{f}{g}$	Simplify the expression: $\frac{f^3g}{fg^2} \cdot \frac{g^2}{fg^3}$
a) $40p + 4$ b) $40p - 16$ c) $3p - 3$ d) $20p - 4$	Simplify: 6(5 <i>p</i> − 1) − 5(− 2 <i>p</i> − 2)	a) (-3, 1) b) (3, 1) c) (1, -1) d) (-2, 0)	Solve the linear system: -x + y = -2 -2x - y = -7
a) $x > -2$ b) $2x \le -4$ c) $3x < -6$ d) $x + 3 < 2$	This graph shows the solution for which inequality? -8 -6 -6 -7 -7 0 2 -8 -6 8	a) 6 b) $\frac{48}{10}$ d) 5	Page 2 Solve: 8x - 1 = -2x + 49 x =

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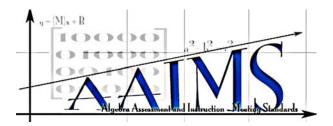
Solve: 7- H- =x Algebra Content Analysis 1 Evaluate the expression: 3x + 4 = 19ط ع с) 1528 1528 3x = 15 C a) -36 6-2 - 15 22 36-とこの 12 Ð চ - 12 $\frac{1}{36}$ a = 4 and b = 6Solve the linear system: Evaluate $a^2 - b \div 2$ when 42-6:2 ত ೬೦ ළ 8-6:1 13 (-1, -5)(5, 8) (-2, 19) (9, 5) x-y=4x + 2y = 1910 5-2 y + 2x = 4? which inequality? Which line on the graph is This graph shows the solution for ∞_ 9 <u>, 0</u> Ъ <u>e e e e</u> × ^ 3 $2x \le -6$ -3x > 9x > -3Line D Line C Line B Line A $3x \ge 9$ -¦2 0 246 œ ĥ ò c) $x = \frac{1}{2}y - 3$ Simplify: 3(m+2) + 2(m-1)intercept form if $m = \frac{1}{2}$ and b = 3a) y = 2x + 3Write the equation in slope $y = \frac{1}{2}x + 3$ 3m+6+2m-1 ರಿಲಿ 9 æ y= mx +b 6*m* + 8 5m + 46m - 85m + 15m +5 A SUN b) $y = 3x + \frac{1}{2}$ d) $y = \frac{1}{2}x + 3$ Page 1

$\frac{a^2}{ab^3} \cdot \frac{b^4}{a^3} = \frac{-0x + 3y0}{2x + 6y = 30}$	$\begin{array}{c} 3c = -3c - 18 \\ c = -3c - 18 \\ c = -16 \\ c = -16 \\ c = -18 \\ $	Find the slope of a line through $(1, -1)(5, 2)$ $(2b-3)$
	12 b - 18 - 6 - 3b $9b - 24$ a) $15b - 24$ b) $9b - 9b + 12$ d) $15b + 12$ Write the equation of a line through	$\begin{array}{c c} Emily & Page 2\\ \hline gh & Simplify: \\ 6(2b-3)-3(2-b) \end{array}$

Algebra Content Analysis 1 KEY			Page 1
Solve: 3x + 4 = 19 x = Isolates variables by subtracting 4 from each side 3x = 15	Evaluate $a^2 - b \div 2$ when a = 4 and $b = 6Substitutes values for variables4^2 - 6 \div 216 - 6 \div 2$	Which line on the graph is y + 2x = 4? y = -2x + 4 A B C	Simplify: 3(m+2)+2(m-1) Distributes either term so that response includes 3m+6 <u>OR</u> $2m-2$ <u>OR</u> $5m$
Isolates variable and divides by 3 to solve for x	Further reduces elements in the expression 16 – 3		Distributes both terms correctly 3m + 6 + 2m – 2 <u>OR</u> Distributes either term correctly <u>and</u> includes 5m or + 4
a) 8 b) 22 c) 15 d) 5	 a) 1 b) 5 c) 10 d) 13 	 a) Line A b) Line B c) Line C d) Line D 	 a) 5m + 4 b) 5m + 1 c) 6m + 8 d) 6m - 8
Evaluate the expression: 6 ⁻²	Solve the linear system: x - y = 4 x + 2y = 19	This graph shows the solution for which inequality?	Write the equation in slope- intercept form if $m = \frac{1}{2}$ and $b = 3$
Applies the negative exponent $\frac{1}{6^2}$	Chooses a correct multiplier for combination (i.e., multiply 1 st equa- tion by 2 or -1 or 2 nd eq. by -1) <u>OR</u> Isolates one variable (x = , y =) for substitution	-8 -6 -4 -2 0 2 4 6 8 x≤-3	y = mx + b <u>OR</u> an expression that includes $\frac{1}{2}x$
a) -36 b) $\frac{1}{22}$	Solves correctly for 1 variable using either method <u>OR</u> follows steps to solve, but makes computational errors <u>OR</u> plugs in solution for 1 variable if using substitution	Shows evidence of understanding simplifying of inequalities by dividing answer options to isolate variables	$\frac{1}{2}x + 3$ (but no 'y = ')
c) $\frac{1}{12}$ d) - 12	a) (-1,-5) b) (5,8) c) (-2,19) d) (9,5)	a) $x > -3$ b) $2x \le -6$ c) $-3x > 9$ d) $3x \ge 9$	ω

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Algebra Content Analysis 1 KEY			Page 2
Evaluate $d + 3c^2$ when $d = 5$ and $c = 2$	Solve: 6c + 4 = -3c - 14	Find the slope of a line through $(1, -1) (5, 2)$	Simplify: 6(2b-3) - 3(2-b)
Substitutes values for variables 5 + 3 • 2 ²	c = Isolates variables on 1 side (+ 3c or – 6c to both sides) <u>OR</u> Isolates constants on 1 side (– 4 or + 14 to both sides)	Draws a graph to determine slope $\frac{OR}{2-1}$ uses slope formula $\frac{2-1}{5-1}$ or $\frac{-1-2}{1-5}$	Distributes either term so that response includes 12b - 18 <u>OR</u> - 6 + 3b <u>OR</u> 15b
Further reduces elements in the expression 5 + 3 • 4 5 + 12 a) 11 b) 23 c) 17 d) 10	Isolates constants and variables OR Isolates variables or constantsanddivides to solve for ca) $-\frac{10}{3}$ b) -2 c)2d)6	Finds slope, but has negative values in numerator and denominator $\frac{-3}{-4}$ a) $\frac{1}{5}$ b) $\frac{3}{4}$ c) - 6 d) - $\frac{4}{3}$	Distributes both terms correctly 12b - 18 - 6 + 3b <u>OR</u> Distributes either term correctly <u>and</u> includes 15b or - 24 in response a) 15b - 24 b) $9b - 9$ c) $9b + 12$ d) $15b + 12$
Simplify the expression: $\frac{a^2}{ab^3} \cdot \frac{b^4}{a^3}$ Multiplies across to combine terms <u>OR</u> simplifies by reducing either the a or b terms EX: $\frac{a^2b^4}{a^4b^3}$ or $\frac{a}{b^3} \cdot \frac{b^4}{a^3}$	Solve the linear system: -6x + 3y = -6 2x + 6y = 30 Chooses a correct multiplier for combination (i.e., multiplies1 st equation by - 2 or 2 nd eq. by 3) <u>OR</u> Isolates one variable (x = , y =) for substitution	Simplify $b^2 - 4b + 2b^2 + 7 - 5$ Combines any 2 like terms (i.e., b^2 , constants) $3b^2 \ OR \ 2$	Write the equation of a line through (5, 3) (4, 9). Use point-slope form. Determines correct slope OR applies slope formula $\frac{9-3}{4-5} \text{ or } \frac{3-9}{5-4} \text{ or } m = -6$
Simplifies <u>both</u> the <i>a</i> and <i>b</i> terms, but expression is not fully reduced EX: $a \cdot \frac{b}{a^3}$ a) $\frac{a^8}{a^3b^3}$ b) $\frac{ab^8}{a^4b^3}$	Solves correctly for 1 variable using either method <u>OR</u> follows steps to solve, but makes computational errors <u>OR</u> plugs in solution for 1 variable if using substitution a) (6, 3)	Combines both like terms, but makes an error in computation EX: $3b^2 - 4b + 12$ a) $3b^2 - 4b + 2$	See
d)	a) (0, 5) b) (3, 4) c) (2, 6) d) (4, -3)		a) $y + 1 = 2(x - 4)$ b) $y + 4 = -6(x - 1)$ c) $y - 3 = -6(x - 5)$ d) $y = -6x + 30$



For all probe types, ignore skipped problems

Algebra Basic Skills probes:

- Each correct problem is worth 1 point
- Count mathematically equivalent responses as correct
- TOTAL SCORE = number of problems correct

Algebra Foundations probes:

- Each correct response/blank is worth 1 point
- Each ordered pair is counted as one point (the box with two ordered pairs is worth TWO points, not four)
- Count mathematically equivalent responses as correct
- TOTAL SCORE = total number of points earned

Translations probes:

- Count the number of problems correct
- Count the number of problems incorrect
- TOTAL SCORE = number of problems correct number of problems incorrect

Algebra Content Analysis probes:

- Use the three-step partial credit scoring procedure:
 - 1. Is the answer correct? Score as 3 points
 - 2. Is the answer incorrect with no work shown? Score as a guess and mark a ${\it J}$ in the box. When totaling, count as -1
 - 3. If work is shown, but no answer or answer is incorrect, compare the student's response to the scoring rubric.
 - If the student's answer has features that match what is ABOVE the line on the rubric, score as 1 point
 - If the student's answer has features that match what is BELOW the line on the rubric, score as 2 points
 - If the student's work does NOT align with anything on the rubric, score as 0 points
- TOTAL SCORE = total number of points earned (e.g., total positive points -# of guesses)

Algebra Basic Skills 1	
Solve:	
9 + a = 15	a= 6
Evaluate:	
12 + (-8) + 3	7
Simplify:	
2x+4+3x+5	5x+9
Solve:	
12 - k = 4	k= 8
Simplify:	
4(3+s)-7	5+5
Simplify: $b + b + 2b$	46
Solve:	-
$r - \frac{12}{12}$	r = 1
$\frac{r}{6} = \frac{12}{18}$	r- Z
Simplify:	
7-3(f-2)	-3F+1
Evaluate:	
-5 + (-4) - 1	-10
Solve:	
$63 \div c = 9$	c = 7
Simplify:	
2(s-1)+4+5s	75+6
25 - 2 Simplify:	
8m-9(m+2)	-m+18.
Solve:	
3 ft. = 1 yd.	
ft. = 9 yds.	~~
-	27
Evaluate:	
4 - (-2) + 8	10
Simplify:	
2k+3-5(k+7)	3K +10
L	

	Max Page 1
Solve:	-
10 - 6 = g	g= 4
Simplify:	
9 - 4d + 2 + 7d	3d +11
Simplify:	
5(b-3)-b	-15+46
Solve:	
$q \bullet 5 = 30$	$q = \mathbf{b}$
Evaluate:	
8-(-6)-4	10
Simplify:	
2 + w(w - 5)	2w-3
Solve:	
1 ft. =12 in.	60
5 ft. = in.	60
Simplify:	
4 - 7b + 5(b - 1)	9-26
Simplify:	
s+2s-4s	5
Solve:	
x + 4 = 7	x= 3
Simplify: $-5(q+3)+9$	
Evaluate: $9 + (-3) - 8$	
Solve:	
$\frac{12}{12} = \frac{48}{12}$	-
$\frac{12}{2} = \frac{10}{m}$	m= 8
Simplify: $y^2 + y - 4y + 3y^2$	
Simplify:	
3(c+2)-2c	0+6

Algebra Basic Skills 1	
Solve:	
$3 \cdot 8 = m$	^{m=} 24
Evaluate:	· ·
-9+5+8	91
	4
Simplify:	
x+2(x-5)-3	
Solve:	
d-5=4	d= 9
Simplify:	
5(3+f)-2f+6	
Simplify:	
5-2b+4(b+3)	
Solve:	
4 qts. = 1 gal.	
$_{}^{}$ qts. = 3 ¼ gals.	
Simplify:	-
4(y+1) - 8y	
Evaluate:	
14-7+(-3)	
Solve:	
$\left \frac{36}{6} = s \right $	<i>s</i> =
Simplify:	
$\begin{vmatrix} \sin p \sin y \\ -3w^2 + 5w^2 - 5 + 12 \end{vmatrix}$	
Simplify:	
9 - 4(v + 2)	
Solve:	
4r = 28	r = 7
	· /
Simplify:	
16+2(t-4)-3t	
Simplify:	
c-3(c+2)+8	
L	:

	Max Page	2
Solve:		
$\frac{1.5}{h} = \frac{h}{h}$	h =	
$\frac{-3}{3} = \frac{-9}{9}$	<i>n</i> -	
Simplify:		
7b - 4 - 3 - 2b		
Simplify:		
2j - 3(j - 4)		
Solve:	_	
$6+7=\nu$	v= 13	
	· •	
Evaluate:		
-5+6-6	-5	
	3	
Simplify:		
4 + 10(1 - r)		
Solve:		
2.5 cm. = 1 in.		
$_\ cm. = 6 in.$		
Simplify:		
$6a + 2a - 9 + 3a^2$		
Evaluate:		
-1+4+(-7)		
Solve:		
$\frac{500}{10} = \frac{10}{10}$	j= 100	
j 2		
Simplify		
Simplify: -3(u+3) - 2u + 5		
-J(u + J) - 2u + J		
Simplify		
Simplify: $2c - 3c - c$		
2t - 3t - t	-20	
Solve:		{
solve: $h \div 6 = 8$	h- 11 m	
$n \div 0 = \delta$	h = 48	
Evaluate:		
-2 + (-5) + (-8)		
-2 - (-3) - (-8)		
Simplify		
Simplify: $3z - 8z + 2 + 9$		
J2 — 02 T Z T Y		
]

A A

Algebra Basic Skills 1 KEY		
Solve:		ſ
9 + a = 15	<i>a</i> =	6
Evaluate:		
12 + (-8) + 3		7
Simplify:		
2x + 4 + 3x + 5		5x + 9
Solve:		
12 - k = 4	<i>k</i> =	8
Simplify:		
4(3+s) - 7		4s + 5
<u> </u>		
Simplify:		
b+b+2b		4 <i>b</i>
C a lava a		
Solve:		
$\frac{r}{6} = \frac{12}{18}$	<i>r</i> =	4
6 18		
C'		
Simplify: $7 - 2(f - 2)$		2f + 12
7 - 3(f - 2)		-3f + 13
Evaluate:		
-5 + (-4) - 1		- 10
Solve:		
$63 \div c = 9$	<i>c</i> =	7
Simplify:		
2(s-1) + 4 + 5s		7s + 2
<u> </u>		
Simplify:		10
8m - 9(m + 2)		-m - 18
Solve:		
3 ft. = 1 yd.		27
ft. = 9 yds.		<i>21</i>
1 > 5.00.		
Evaluate:		
4 - (-2) + 8		14
		-
Simplify:		
2k + 3 - 5(k + 7)		-3k-32
1		

	Page 1
Solve:	
10 - 6 = g	<i>g</i> = 4
Simplify:	
9 - 4d + 2 + 7d	3 <i>d</i> + 11
Simplify:	
5(b-3) - b	4b - 15
Solve:	
$q \bullet 5 = 30$	<i>q</i> = 6
Evaluate:	
8 - (- 6) - 4	10
Simplify:	
2 + w(w - 5)	w^2-5w+2
Solve:	
1 ft.=12 in.	60
5 ft.= in.	
Simplify:	
4 - 7b + 5(b - 1)	- 2 <i>b</i> - 1
Simplify:	
s+2s-4s	- <i>s</i>
Solve:	
<i>x</i> + 4 = 7	<i>x</i> = 3
Simplify:	
-5(q+3)+9	- 5q - 6
Evaluate:	
9 + (- 3) - 8	- 2
Solve:	
$\frac{12}{12} = \frac{48}{12}$	_
$\frac{1}{2} = \frac{m}{m}$	<i>m</i> = 8
Simplify:	
$y^2 + y - 4y + 3y^2$	$4y^2 - 3y$
Simplify:	
3(c+2) - 2c	<i>c</i> + 6

Algebra Basic Skills 1 KEY		
Solve:		
$3 \cdot 8 = m$	m =	24
Evaluate:		
-9+5+8		4
Simplify:		
x + 2(x - 5) - 3	3 <i>x</i>	- 13
Solve:		
d - 5 = 4	d =	9
Simplify:		
5(3+f) - 2f + 6	3f	+ 21
Simplify:		
5-2b+4(b+3)	2b	+ 17
Solve:		
4 qts. = 1 gal.		13
$_{}^{1}$ qts. = 3 ¼ gals.		
Simplify:		
4(y+1) - 8y	- 4	y + 4
Evaluate:		
14 – 7 + (– 3)		4
Solve:		
$\frac{36}{5} = s$		
6	<i>s</i> =	6
Simplify:		? _
$-3w^2 + 5w^2 - 5 + 12$	2w	² + 7
Simplify:		
9 - 4(v + 2)	- 4	v + 1
Solve:		
4r = 28	<i>r</i> =	7
Simplify:		
16 + 2(t - 4) - 3t	—	<i>t</i> + 8
Simplify:		
c - 3(c + 2) + 8	- 2	<i>c</i> + 2

	Page 2
Solve:	
$\frac{1.5}{1.5} = \frac{h}{1.5}$	<i>h</i> = 4.5
3 9	
Simplify:	51 7
7b - 4 - 3 - 2b	5 <i>b</i> – 7
Simplify:	
2j - 3(j - 4)	-j + 12
	y
Solve:	
6 + 7 = v	<i>v</i> = 13
Evaluate:	_
-5+6-6	- 5
Simplify:	
4 + 10(1 - r)	-10r + 14
Solve:	
2.5 cm. = 1 in.	15
$_\ cm. = 6 in.$	
Simplify:	
$6a + 2a - 9 + 3a^2$	$3a^2 + 8a - 9$
Evaluate:	
-1 + 4 + (-7)	- 4
Calmar	
Solve:	
$\frac{500}{i} = \frac{10}{2}$	<i>j</i> = 100
j 2 Simplify	
Simplify: $-3(u+3) - 2u + 5$	- 5 <i>u</i> - 4
-3(u+3)-2u+3	– <i>3u</i> – 1
Simplify:	
2c-3c-c	-2c
Solve:	
$h \div 6 = 8$	h = 48
Evaluate:	
-2 + (-5) + (-8)	- 15
Simplify:	
3z - 8z + 2 + 9	-5z + 11

Evaluate: $(-2)^3$ - 6 Evaluate $8g - 4$ when
Evaluate: (-2) • (-4)
Simplify: 7 <i>f</i> + (2 <i>f</i> + <i>f</i>) /0
Fill in the empty box: n 4n+7 - 1 3 - 2 - 5 - 3 - 5 - 3 - 5 - 3 - 5 - 3 - 5 - 3 - 5 - 2 - 5 - 3 - 5 - 2 - 5 - 3 - 5 - 2 - 5 - 3 - 5 - 2 - 5 - 5 - 2 - 5 - 5 - 2 - 5 - 5

OSEP Award# H324C030060

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OSEP Award# H324C030060	Write a word phrase for thisEvaluate:expression: $(-3)(9-7)$ $h \cdot 5$	If $2a + 4 < 20$, two possibleSolve:values for a are and $24 \div x = 6$	Evaluate: Graph 4^2 4^2 $-8 -6$	Write a word phrase for this expression: $x \div 4$ a number divided by 4 $(-12 \div 4)$	Algebra Foundations 1 Fill in box: box: n n n n n n n n
	te: (-7) Evaluate: $\sqrt{81}$	4 6	the expression $p \le 3$ ++++++++++++++++++++++++++++++++++++)+5 2	Fill in the empty box: n n-2 6 4 9 6 12 8 15 10 Fill in the empty box: t 2t-7 -2 -11 2 -3 6 5 10 13
	9	* * 2	\$(x + 9)	he expression for this than twice a number 8 + 2 n	Fill in the empty box: $\frac{h}{-5} \frac{h_{+}7}{2}$ $\frac{-5}{5} \frac{2}{10}$ $\frac{10}{17}$
© 2009, Project AAIMS, Iowa State University	Solve: 6t = 36 t = 6	Simplify: 12 <i>n</i> - 5 + 3 - 7 <i>n</i>	Write the expression for this phrase: 10 divided by a number	Solve: 15-8=x x= \checkmark	Max Page 2 Page 2 P

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-2b + 14	t = -2 - 20	Seven less than ten g	8-
Simplify: 6-2(b-4)	Evaluate $8g - 4$ when $g = 2$ 12	Write a word phrase for this expression: $10b - 7$	Evaluate $2x + 4y$ when $x = 2$ and $y = -3$
<u>9n</u>	- 8	3	Nine more than a number
Write the expression for this phrase: 9 multiplied by a number	Evaluate: (– 2) ³	Evaluate: I $4 + (9 \div 3) - 2^2$ (Write a word phrase for this expression: n+9
	×	n-6	<i>b</i> = 3 14
-8 -6 -4 -2 0 2 4 6 8	(-2) • (-4)	phrase: () 6 less than a number	b=1 6
Graph the expression $m > -5$	Evaluate:	ne expression for this	Evaluate $4b + 2$ when
JI	10f	30	Any number greater than 9
Solve: n + 3 = 8 n =	Simplify: 7f + (2f + f)	Evaluate: $9 \cdot 4 - 6$	If <i>y</i> > 9, two possible values for <i>y</i> are and
What is the <i>y</i> -intercept? 1			
What is the slope?			
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	J(3,-1) O(1,2)
Page 1	npty Fill in the empty box:	Fill in the empty box: Fill in the empty	Algebra Foundations 1 KEY Find the ordered pair for each point:

Solve: $15 - 8 = x$ 7 $x =$ $x =$ 7Write the expression for this phrase: 10 divided by a number $\frac{10}{n}$ Simplify: $12n - 5 + 3 - 7n$ $\frac{10}{5n - 2}$ Solve: $6t = 36$ $t =$ $5n - 2$	Write the expression for this phrase: 8 more than twice a number 2n + 8 Simplify: 9x - 3 + 4(x + 9) 13x + 33 Evaluate: $10 - 3 + 8 \div 2$ $10 - 3 + 8 \div 2$ Evaluate: $\sqrt{81}$ 5	Evaluate: $(-12 \div 4) + 5$ 2 Graph the expression $p \le 3$ At the expression $p \le 3$ Solve: $24 \div x = 6$ $x = 4$ Evaluate: $(-3)(9 - 7)$ At the expression $p \le 3$ At the expr	Write a word phrase for this expression: $x \div 4$ A number divided by four Evaluate: 4^2 If 2a + 4 < 20, two possible values for <i>a</i> are and <u>Any number less than 8</u> Write a word phrase for this expression: $h \bullet 5$ A number multiplied by five
What is the y-intercept? 2	e empty 2t - 7 -11 -3 13 13 Fill in the empty box: h h + 7 -5 2 1 1 1 1 1 1 1 1	empty Fill in the e box: $\begin{array}{c} 2n \div 3 \\ 4 \\ 6 \\ 8 \\ 10 \\ 10 \\ \hline 10 \\ \hline 10 \\ \hline 10 \\ \hline \end{array}$	Algebra Foundations 1 KEY Algebra Foundations 1 KEY 4 3 2 4 3 2 4 4 3 2 4 4 4 4 4 4 4 4 4 4

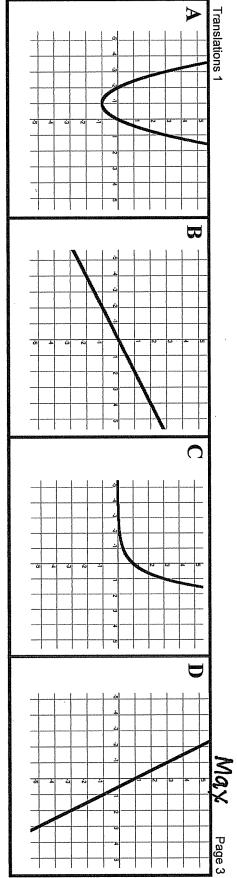
Translations 1 \mathbf{A} $y = x$	B $y = 2x - 1$	C <i>y</i> = 1.5	$Max Page 1$ \mathbf{D} $y = -x + 1$
$\begin{array}{c cccc} x & y \\ \hline 2 & 1.5 \\ \hline 1 & 1.5 \\ \hline 0 & 1.5 \\ -1 & 1.5 \\ -2 & 1.5 \end{array}$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
Mark needs to find half the widt inches. He wrote this equation t Every day that Cindy waters the the number of days she waters th	Mark needs to find half the width of pieces of pipe he is cutting to make a soccer goal. Th inches. He wrote this equation to show the relationship between the length and the width Every day that Cindy waters the garden, she earns a dollar. She wrote this equation to sho the number of days she waters the garden and the number of dollars she will earn.	goal. Th ne width on to sho	ne width of the pipe is 3
Joe has one dollar in his wallet. borrows from his friends for lun	Joe has one dollar in his wallet. He wrote this equation to show the relationship l borrows from his friends for lunch and the total amount of money he has or owes	Joe has one dollar in his wallet. He wrote this equation to show the relationship between the number of dollars he borrows from his friends for lunch and the total amount of money he has or owes.	of dollars he C
The class earns \$2 for each mag processing fee. Cindy wrote thi	The class earns \$2 for each magazine subscription sold in the fund-raiser. processing fee. Cindy wrote this equation to show the relationship betwee	\$2 for each magazine subscription sold in the fund-raiser. A \$1 fee per student is charged for a Cindy wrote this equation to show the relationship between the number of magazines sold and the profit.	rged for a p sold and the profit.
this equation to show the relatio	nship between the number of days	the flood waters are recenting at a rate of 1 root per day. The fiver is currently at 1 root above more sage. Four wroth this equation to show the relationship between the number of days and the height of the river compared to flood stage.	ed to flood stage.
OCED Amard# H324C030060			© 2009 Project AATMS Iowa State University

Translations 1 A $\frac{x}{4}$ $\frac{y}{16}$ $\frac{-2}{-4}$ $\frac{16}{16}$ $\frac{-2}{-4}$ $\frac{16}{16}$ $\frac{-2}{-4}$ $\frac{16}{16}$ $\frac{-2}{-4}$ $\frac{16}{16}$ $\frac{-2}{-4}$ $\frac{16}{16}$ $\frac{-2}{-4}$ $\frac{16}{16}$ $\frac{-2}{-4}$ $\frac{16}{-4}$ $\frac{-2}{-4}$ $\frac{16}{-4}$ $\frac{-2}{-4}$ $\frac{16}{-4}$ $\frac{-2}{-4}$ $\frac{16}{-4}$ $\frac{-2}{-4}$ $\frac{16}{-4}$ $\frac{-2}{-4}$ $\frac{16}{-4}$ $\frac{-2}{-4}$ $\frac{-4}{-4}$ $\frac{16}{-4}$ $\frac{-2}{-4}$ $\frac{-4}{-4}$			$ \begin{array}{c} $
0	y = x -	b $y = x^2$	$\frac{A}{3y} = 6x + $
Mr. Jones is going to give a true/false test. his students can give on the test. Sue made this data table to figure out how and she needs to add an extra inch to make	Mr. Jones is going to give a true/false test. He made this data table to show the number of his students can give on the test. Sue made this data table to figure out how many inches of wire she needs for a bracelet. E and she needs to add an extra inch to make a hook to fasten the bracelet.	now the number of is for a bracelet. E	of possible answer combinations Each bracelet uses two strands
Sam's allowance changes every year. Each mo by his age. Sam made this data table to figure o Every time Hans delivers newspapers, he keeps newspapers he delivers to families on his route	Sam's allowance changes every year. Each month his mom pays him a dollar for each year he has lived, multiplied by his age. Sam made this data table to figure out his allowance. Every time Hans delivers newspapers, he keeps one for his family. Hans made this data table to show how many newspapers he delivers to families on his route.	im a dollar for each year he has lived, multipli Hans made this data table to show how many	ed, multiplied / how many
Tim's washing machine 'eats' so	Tim's washing machine 'eats' socks. The first time he lost one sock in the wash. Now, end clothes he loses two socks. Tim made this data table to figure out how many socks he	k in the wash. Now, every time he washes a load	

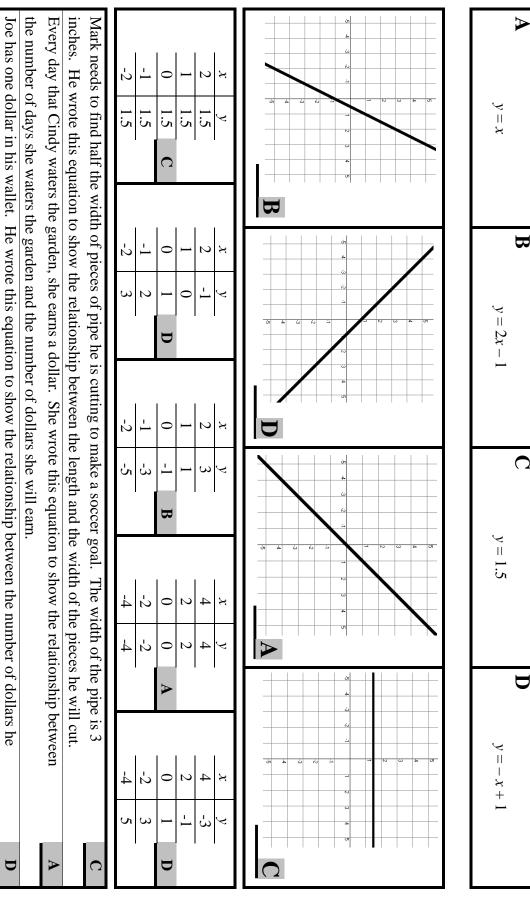
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will A	piece of wood. The piece she will to show the area of the backdrop.	needs to add on to a square de. Tammy made this graph	or the school play. She pare, but only 2 feet wi	Tammy is making a backdrop for the school play. She needs to add on to a square piece of wood. The piece she wil add is the same height as the square, but only 2 feet wide. Tammy made this graph to show the area of the backdrop
ر ح	is Otis. She made this graph to	at Oscar eats twice as much a	nd Otis. She knows the	Ming Hui has two cats, Oscar and Otis. She knows that Oscar eats twice as much as Otis.
off the	vice his height when he steps off the	and this summer. ol. An average diver drops to the in the water.	earn for her college fue the surface of the poc to show the diver's der	show how much money she will earn for her college fund this summer. A diving board is one foot above the surface of the pool. An average diver drops twice his board. Marcus made this graph to show the diver's depth in the water.
tt made	ın go three possible ways. Mat ze. She made this graph to	comes to an intersection, it controls for the gerbil through the ma in the summer for college.	Each time the gerbil c ible number of routes 1 half of what she earns	Matt built a maze for his gerbil. Each time the gerbil comes to an intersection, it can go three possible ways. Matt made this graph to show the total possible number of routes for the gerbil through the maze. LaShaya's mom makes her save half of what she earns in the summer for college. She made this graph to
1				
$y = \frac{1}{2}x$	y = x(x+2)	$y = 3^{x}$	$y = x^2 + 2x$	y = -2x + 1
-1 -2 0	- μ μ μ - μ	2 -1	-2 -1	-1 3 -2 5
		A		0 1 2 × 1 -1 -3 ×
X N		γ 		



C D Page 1



OSEP Award# H324C030060

processing fee. Cindy wrote this equation to show the relationship between the number of magazines sold and the profit

The flood waters are receding at a rate of 1 foot per day. The river is currently at 1 foot above flood stage. Tom wrote

The class earns \$2 for each magazine subscription sold in the fund-raiser. A \$1 fee per student is charged for a

this equation to show the relationship between the number of days and the height of the river compared to flood stage.

borrows from his friends for lunch and the total amount of money he has or owes.

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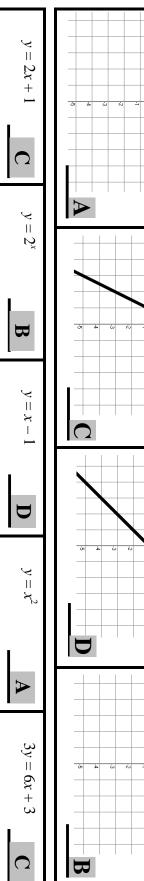
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Sam's allowance changes every year. Each month his mom pays him a dollar for each year he has lived, multiplied Sue made this data table to figure out how many inches of wire she needs for a bracelet. Each bracelet uses two strands and she needs to add an extra inch to make a hook to fasten the bracelet. Mr. Jones is going to give a true/false test. He made this data table to show the number of possible answer combinations his students can give on the test.

of clothes, he loses two socks. Tim made this data table to figure out how many socks he has lost. by his age. Sam made this data table to figure out his allowance. newspapers he delivers to families on his route. Every time Hans delivers newspapers, he keeps one for his family. Hans made this data table to show how many Tim's washing machine 'eats' socks. The first time he lost one sock in the wash. Now, every time he washes a load

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State University	© 2009, Project AAIMS, Iowa State University	0				1060	OSEP Award# H324C030060
	he backdrop.	h to show the area of the backdrop	made this grap	wide. Tammy	add is the same height as the square, but only 2 feet wide. Tammy made this graph to sho	eight as the squ	add is the same h
Α	viece she will	Tammy is making a backdrop for the school play. She needs to add on to a square piece of wood. The piece she will	ld on to a square	She needs to ad	the school play.	g a backdrop for	Tammy is making
1	1					Otis eats.	show how much Otis eats
В	s graph to	as Otis. She made this graph to	s twice as much	that Oscar eats	Ming Hui has two cats, Oscar and Otis. She knows that Oscar eats twice as much as Otis	o cats, Oscar and	Ming Hui has two
1	I	,	ater	_ denth in the w	hoard Marcus made this granh to show the diver's denth in the water	ade this granh t	hoard Marcus m
D	he steps off the	A diving board is one foot above the surface of the pool. An average diver drops twice his height when he steps off the	nge diver drops	pool. An avera	the surface of the	one foot above	A diving board is
			lmer.	e fund this sum	show how much money she will earn for her college fund this summer.	money she will	show how much i
В	Ö	LaShaya's mom makes her save half of what she earns in the summer for college. She made this graph to	ner for college.	urns in the summ	half of what she ea	makes her save	LaShaya's mom 1
C	vays. Matt made	Matt built a maze for his gerbil. Each time the gerbil comes to an intersection, it can go three possible ways. Matt made this graph to show the total possible number of routes for the gerbil through the maze.	intersection, it c ll through the m	oil comes to an es for the gerbi	Matt built a maze for his gerbil. Each time the gerbil comes to an intersection, it can a this graph to show the total possible number of routes for the gerbil through the maze.	for his gerbil. v the total possi	Matt built a maze this graph to show
B	$y = \frac{1}{2}x$	y = x(x+2)	C	$y = 3^{x}$	$y = x^2 + 2x$ A	D y	y = -2x + 1
	-2 0	0 0	-2	-2	-4	5	-2
		ω	<u>'</u>		-2	3	-1
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a) -36 b) $\frac{1}{36}$ c) $\frac{1}{12}$ d) -12	Evaluate the expression: 6^{-2}	Algebra Content Analysis 1 Solve: 3x + 4 = 19 x = 4 = 4 4 = 19 x = 4 = 4 9 3x + 4 = 19 x = 4 9 3x + 4 = 19 3x + 4 = 15 3x + 5 = 15 3
a) $(-1, -5)$ b) $(5, 8)$ c) $(-2, 19)$ d) $(9, 5)$	Solve the linear system: x - y = 4 x + 2y = 19	Evaluate $a^2 - b \div 2$ when a = 4 and $b = 64^2 - 6 \div 28 - 6 \div 2a = 6 \div 2a = 2 \div 2a = 10a = 10$
a) $x > -3$ b) $2x \le -6$ c) $-3x > 9$ d) $3x \ge 9$	This graph shows the solution for which inequality? ••••••••••••••••••••••••••••••••••••	Which line on the graph is y + 2x = 4? A B C A C C C C C C C C C C C C C
a) $y = 2x + 3$ b) $y = 3x + \frac{1}{2}$ c) $x = \frac{1}{2}y - 3$ d) $y = \frac{1}{2}x + 3$	Write the equation in slope- intercept form if $m = \frac{1}{2}$ and $b = 3$ $y = \frac{1}{2}x + 3$	MQX Page 1 Simplify: 3(m+2)+2(m-1) 3m + 2 + 2m - 1 5m + 1 (b) 5m + 4 (b) 5m + 4 (b) 5m + 8 (b) 6m + 8 (b) 6m - 8

•

Simplify the expression: d = 5 and c = 2Evaluate $d + 3c^2$ when Algebra Content Analysis 1 a) $\frac{a^8}{a^3b^3}$ c) $\frac{b}{a^2}$ ð 5+3.2² a C σ 23 10 $\frac{a^2}{ab^3} \circ \frac{b^4}{a^3}$ 5 414 0 $\frac{d}{a} \frac{b}{b}$ ত $\frac{ab^8}{a^4b^3}$ 0 1 Solve: Solve the linear system: 6c + 4 = -3c - 14+ V $a) - \frac{10}{3}$ 90 +4=-14 ಕಿಂ a) (6, 3) b) (3, 4) c) (2, 6) d) (4, -3) **b**) - 2 -6x + 3y = -62x + 6y = 300/0 ーヤ 4 V 81c=-2 Simplify: $b^2 - 4b + 2b^2 + 7 - 5$ Find the slope of a line through (1, -1)(5, 2)c) – 6 පිට විම $\frac{a}{5}$ $\frac{1}{5}$) 2b+2) $-b^2-4b+12$) $3b^2-4b+12$ $3b^2 - 4b + 2$ 2/5 ו) הו $d) - \frac{4}{3}$ ভ $\omega | 4$ Simplify: 6(2b - 3) - 3(2 - b)(5, 3)(4, 9). Use point-slope form. Write the equation of a line through 126 -18-6-36 දුරුව පටවෙළ y + 1 = 2(x - 4)y + 4 = -6(x - 1)y = -6x + 30y-3=-6(x-5)15b - 249b - 99b + 1215b + 1296-24 Max Page 2

c) $x = \frac{1}{2}y - 3$ d) $y = \frac{1}{2}x + 3$			d) – 12	$c)\frac{1}{12}$
a) $y = 2x + 3$ b) $y = 3x + \frac{1}{2}$	a) $x > -3$ b) $2x < -6$	variable if using substitution a) $(-1, -5)$ b) $(5, 8)$	b) $\frac{1}{36}$	a) – 36
$\frac{1}{2}x + 3$ (but no 'y = ')	Shows evidence of understanding simplifying of inequalities by dividing answer options to isolate variables	Solves correctly for 1 variable using either method <u>OR</u> follows steps to solve, but makes computational errors <u>OR</u> plugs in solution for 1		
$\frac{1}{2}x$	× ≤ -3	tion by 2 or -1 or 2 nd eq. by -1) <u>OR</u> Isolates one variable (x = , y =) for substitution		62
y = mx + b OR an expression that includes	-8 -6 -4 -2 0 2 4 6 8	Chooses a correct multiplier for combination (i.e., multiply 1 st equa-	Applies the negative exponent	Applies the ne
Write the equation in slope- intercept form if $m = \frac{1}{2}$ and $b = 3$	This graph shows the solution for which inequality?	Solve the linear system: x - y = 4 x + 2y = 19	ession:	Evaluate the expression: 6^{-2}
c) $6m + 8$ d) $6m - 8$	c) Line C d) Line D	c) 10 d) 13		c) 13
a) 5 <i>m</i> + 4 b) 5 <i>m</i> + 1				a) 8 b) 22
<u>OR</u> Distributes either term correctly <u>and</u> includes 5m or + 4 in response		č		
Distributes both terms correctly 3m + 6 + 2m – 2		Further reduces elements in the expression	and divides by	Isolates variable and divides by 3 to solve for x
3m + 6 <u>OR</u> 2m - 2 <u>OR</u> 5m		16 - 6 ÷ 2 16 - 6 = 10 10 ÷ 2		from each side 3x = 15
Distributes either term so that response includes	y = -2x + 4	Substitutes values for variables $4^2 - 6 \div 2$	solates variables by subtracting 4	x = Isolates variable
Simplify: 3(m+2) + 2(m-1)	Which line on the graph is $y + 2x = 4^{\circ}$	Evaluate $a^2 - b \div 2$ when $a = 4$ and $b = 6$		Solve: $3x + 4 = 19$
Page 1			1 KEY	Algebra Content Analysis 1 KEY

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Algebra Content Analysis 1 KEY			Page 2
Evaluate $d + 3c^2$ when $d = 5$ and $c = 2$	Solve: 6c + 4 = -3c - 14	Find the slope of a line through $(1, -1) (5, 2)$	Simplify: 6(2b-3) - 3(2-b)
Substitutes values for variables 5 + 3 • 2 ²	c = Isolates variables on 1 side (+ 3c or - 6c to both sides) <u>OR</u> Isolates constants on 1 side (- 4 or + 14 to both sides)	Draws a graph to determine slope $\frac{OR}{2-1} \text{ slope formula}$ $\frac{2-1}{5-1} \text{ or } \frac{-1-2}{1-5}$	Distributes either term so that response includes 12b - 18 <u>OR</u> - 6 + 3b <u>OR</u> 15b
Further reduces elements in the expression 5 + 3 • 4 5 + 12 a) 11 b) 23 c) 17 d) 10	Isolates constants and variablesORIsolates variables or constantsand divides to solve for ca) $-\frac{10}{3}$ b) -2 c) 2d) 6	Finds slope, but has negative values in numerator and denominator $\frac{-3}{-4}$ a) $\frac{1}{5}$ b) $\frac{3}{4}$ c) - 6 d) - $\frac{4}{3}$	Distributes both terms correctly 12b - 18 - 6 + 3b <u>OR</u> Distributes either term correctly <u>and</u> includes 15b or - 24 in response a) 15b - 24 b) $9b - 9$ c) $9b + 12$ d) $15b + 12$
Simplify the expression: $\frac{a^2}{ab^3} \cdot \frac{b^4}{a^3}$ Multiplies across to combine terms <u>OR</u> simplifies by reducing either the a or b terms EX: $\frac{a^2b^4}{a^4b^3}$ or $\frac{a}{b^3} \cdot \frac{b^4}{a^3}$	Solve the linear system: -6x + 3y = -6 2x + 6y = 30 Chooses a correct multiplier for combination (i.e., multiplies1 st equation by - 2 or 2 nd eq. by 3) <u>OR</u> Isolates one variable (x = , y =) for substitution	Simplify $b^2 - 4b + 2b^2 + 7 - 5$ Combines any 2 like terms (i.e., b^2 , constants) $3b^2 \ OR \ 2$	Write the equation of a line through (5, 3) (4, 9). Use point-slope form. Determines correct slope OR applies slope formula $\frac{9-3}{4-5} \text{ or } \frac{3-9}{5-4} \text{ or } m = -6$
Simplifies <u>both</u> the a and b terms, but expression is not fully reduced EX: $a \cdot \frac{b}{a^3}$ a) $\frac{a^8}{a^3b^3}$ b) $\frac{ab^8}{a^4b^3}$	Solves correctly for 1 variable using either method <u>OR</u> follows steps to solve, but makes computational errors <u>OR</u> plugs in solution for 1 variable if using substitution	Combines both like terms, but makes an error in computation EX: $3b^2 - 4b + 12$	Uses correct slope and one other aspect of point-slope formula, EX: $y - 3 = -6 (x - \Box)$ $y - 9 = -6 (x - \Box)$ $y - \Box = -6(x - 4)$ $y - \Box = -6(x - 5)$
d)	a) (0, 5) b) (3, 4) c) (2, 6) d) (4, -3)	b) $2b+2$ c) $-b^2-4b+12$ d) $3b^2-4b+12$	a) $y + 1 = 2(x - 4)$ b) $y + 4 = -6(x - 1)$ c) $y - 3 = -6(x - 5)$ d) $y = -6x + 30$