

Gr. 9 Review

Name: KEY

Unit 6: Linear Equations and Graphing

1. Solve for an unknown:

a) $5x + 4 = 44$
 $5x = 40$
 $x = 8$

b) $7 + 2x = 1$
 $2x = -6$
 $x = -3$

2. Solve for an unknown:

a) $13 = 3x - 2$
 $15 = 3x$
 $x = 5$

b) $-2x + 8 = 0$
 $-2x = -8$
 $x = 4$

3. Solve algebraically and verify

a) $12b + 21 = 93 - 21$
 $12b = 72$
 $b = 6$

b) $-8a + 11 = 27 - 11$
 $-8a = 16$
 $a = -2$

c) $-42 = 5c - 27$
 $-15 = 5c$
 $c = -3$

d) $\frac{n}{3} + 2 = 10 + 2$
 $\frac{n}{3} = 12$
 $n = 36$

e) $\frac{t}{-9} + 8 = -5 - 8$
 $\frac{t}{-9} = -13$
 $t = 117$

f) $-17 + \frac{n}{-3} = 9 + 17$
 $\frac{n}{-3} = 26$
 $n = -78$

3. Expand.

a) $5(x + 6) = 5x + 30$
 b) $7(5 - e) = 35 - 7e$
 c) $3(-x + 8) = -3x + 24$
 d) $-4(6 - e) = -24 + 4e$
 e) $8(-2n + 4) = -16n + 32$
 f) $-4(-11y + 3) = 44y - 12$

4. Solve each equation using distributive property. Verify the solution.

a) $4(p - 6) = -4$
 $4p - 24 = -4$
 $4p = 20$
 $p = 5$

b) $10(y + 3) = 10$
 $10y + 30 = 10$
 $10y = -20$
 $y = -2$

c) $-7(b + 6) = -84$
 $-7b - 42 = -84$
 $-7b = -42$
 $b = 6$

d) $-5(q - 11) = 70$
 $-5q + 55 = 70$
 $-5q = 15$
 $q = -3$

5. Create a table of values from -3 to 3 for $y = 2x - 5$

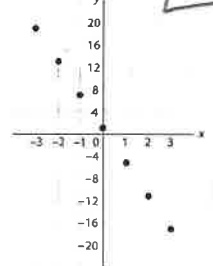
x	y
-3	-11
-2	-9
-1	-7
0	-5
1	-3
2	-1
3	1

$= 2(-3) - 5 = -6 - 5 = -11$
 $= 2(-2) - 5 = -4 - 5 = -9$
 $= 2(-1) - 5 = -2 - 5 = -7$

6. Identify the linear rule that matches a graph

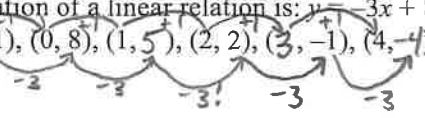
Does this graph represent $y = 5x - 1$ OR $y = -6x + 1$

- Omit #6 -



7. The equation of a linear relation is $y = -3x + 8$. Some ordered pairs in the relation are:

$(-1, 11), (0, 8), (1, 5), (2, 2), (3, -1), (4, -4)$ Find the missing numbers in the ordered pairs.



8. Can you solve linear word problems?

The cost of admission to a fair is \$10, plus \$3 per ride. An equation for this relation is $C = 10 + 3r$, where r represents the number of rides a person goes on, and C represents the total cost of admission and rides.

- a) Harvey went on 13 rides. How much did Harvey spend on admission and rides?
- b) Stephanie spent \$31 on admission and rides. How many rides did Stephanie go on?

a) $C = 10 + 3r$
 $C = 10 + 3(13)$
 $C = 10 + 39$
 $C = \$49$

b) $C = 10 + 3r$
 $31 = 10 + 3r$
 $21 = 3r$
 $\frac{21}{3} = \frac{3r}{3}$
 $r = 7 \dots 7 \text{ rides!}$