

Name: key

Chapter 8 Study Guide

1. Simplify.

$$\frac{-1}{3} \times (-9)^2$$

$$-\frac{1}{3} \cdot 81 = \frac{81}{-3} = -27$$

For number 2 and 3 solve for the variable. Show your work.

2. $2 + 5x = 21$

$$\begin{array}{r} + -2 \\ + -2 \end{array} \quad \frac{1}{5} \cdot 5x = 19 \cdot \frac{1}{5} \quad x = \frac{19}{5}$$

3. $-3a \leq 3.9$

$$\frac{1}{-3} \cdot \frac{1}{-3} \quad a \geq -1.3$$

4. Simplify the expression. (combine like terms)

$$2x - x + (3 + -3)x$$

$$2x - x + 0 \cdot x = x$$

5. Jim had a 20% off coupon at the bookstore. He used it to buy a book that had already been sale-priced at half the original. The book was originally \$29.99, what did Jim pay for it? Round your answer to the nearest cent.

$$(0.5 \cdot 29.99) \cdot 0.8 = \$12$$

6. A) First write an equation of the form $ax = b$. B) Then, solve your equation to answer the question.

A recipe for 12 servings of pasta calls for $\frac{1}{2}$ cup of chopped onions. How many cups, on average, are in each serving?

$$\frac{1}{12} \cdot 12s = \frac{1}{2} \cdot \frac{1}{12}$$

$$s = \frac{1}{24} \text{ cup}$$

7. Which inequality is not equivalent to the other 3?

a. $3b > -6$

b. $-3b < 6$

c. $-6 < -3b$

d. $-6 < 3b$

8. Tax on Mary's lunch bill was 6.5%. She left a 20% tip on the cost of meal and the tax combined. The total cost was \$12.78. What was the cost of the meal before tax and tip?

$$(1.065 \cdot p) \cdot 1.20 = 12.78$$

$$1.278p = 12.78$$

$$p = \$10$$

9. Solve: Show your work.

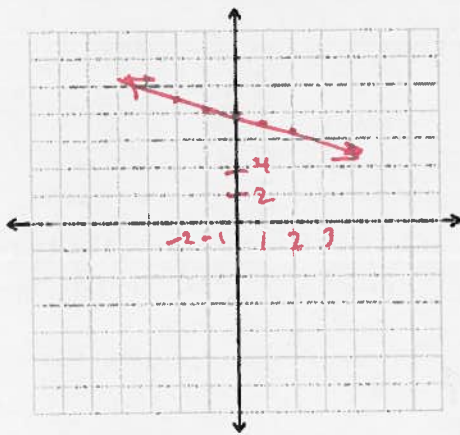
$$5y - 12 \leq 83$$

$$\begin{array}{cc} +12 & +12 \\ \hline \frac{1}{5} \cdot 5y & \leq 95 \cdot \frac{1}{5} \end{array}$$

$$y \leq 19$$

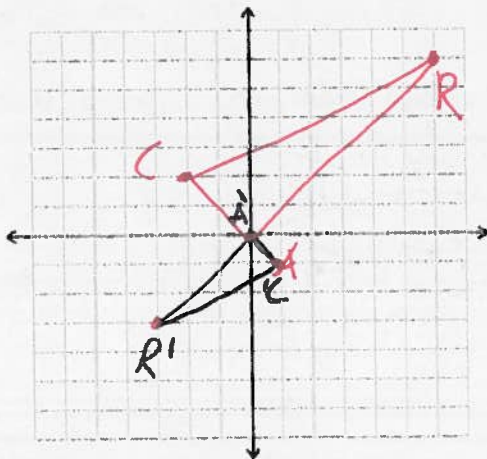
10. Suppose you roll 3 six sided dice. What is the probability you will get all even numbers?

11. Graph the equation: $y = 8 - \frac{1}{2}x$. Include a table of values.



x	y
-2	9
-1	8½
0	8
1	7½
2	7

12. Let $C = (-2, 2)$, $A = (0, 0)$, and $R = (6, 6)$. Graph CAR and its image $C'A'R'$ under a size change of $-1/2$.



$$C' = (-1, 1)$$

$$A' = (0, 0)$$

$$R' = (-3, -3)$$