

NAME:

Period: Score: / = % =

Int 2

HW 1-5

Multi-Step Equations & Inequalities – Variables on Both Sides

Unit 1

Solve each equation or inequality. Graph the solution set for inequalities.

1. $7a + 10 = 2a$

$a = -2$

2. $13x = 24 + 4x$

3. $11x + 3 = 24 - 4x$

$x = \frac{7}{5} \text{ or } \frac{2}{5} \text{ or } 1.4$

4. $5p + 2 = 4p - 1$

$a = 1$

5. $\frac{3}{4}x + 17 > 2\left(\frac{5}{8}x - 34\right)$

$x < 170$



6. $3 - \frac{2}{9}b = \frac{1}{3}b - 7$

7. $2(3x + 4) = 5x + 7$

$x = -1$

8. $15 - \frac{1}{6}n = \frac{1}{6}n - 1$

9. Alma is solving the equation $4a - 5 = 2a - 3$. Circle her mistake and correct it.

$$\begin{array}{l}
 4a - 5 = 2a - 3 \\
 4a - 2a - 5 = 3 \\
 2a - 5 = 3 \\
 2a = 8
 \end{array}$$



10. What is the solution of the following equation: $5x + 7 = -3x - 9$

A. -2

C. 2

B. 1

D. 8

11. Is $m = 30$ the solution for

$$16 - \frac{3}{5}m = -2$$

Yes

12. Is $r = 13$ the solution for

$$12r - 16 = 10 + 14r$$

13. Is $x = -5$ the solution for

$$-7 - \frac{2}{3}x = \frac{4}{3}x + 3$$

Yes

Solve each equation.

14. $-6f + 13 = 2f - 11$

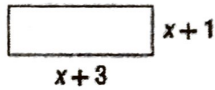
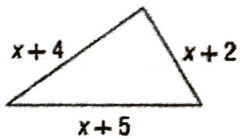
15. $2.5h - 15 = 4h$

16. $2z - 31 = -9z + 24$

$h = -10$

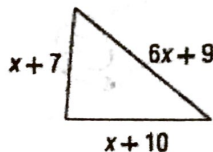
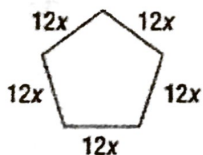
Write an equation to find the value of x so that each pair of polygons has the same perimeter. Then solve.

17.

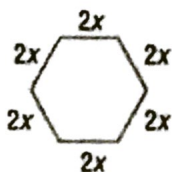
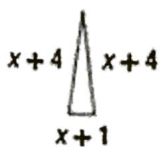


$x = 3$

18.



19. Find the value of x so that the polygons have the same perimeter.



- (A) 4
(B) 3

- (C) 2
(D) 1

20. Which of the following equations has a solution of 5?

- (F) $-12x - 6 = -10x + 4$
 (G) $12x - 6 = 10x + 4$
 (H) $12x + 6 = 10x - 4$
 (I) $12x - 6 = 10x - 4$

21. Carpet cleaner A charges \$28.25 plus \$18 a room. Carpet cleaner B charges \$19.85 plus \$32 a room. Which equation can be used to find the number of rooms for which the total cost of both carpet cleaners is the same?

- (A) $28.25x + 18 = 19.85x + 32$
 (B) $28.25 + 32x = 19.85 + 18x$

- (C) $28.25 + 18x = 19.85 + 32x$
 (D) $(28.25 + 18)x = (19.85 + 32)x$

Solve each equation or inequality. Graph the solution set for inequalities.

22. $8g = 3(5g - 2)$

23. $12k + 7 = 20 - 3k$

24. $8y - 3 = 6y + 17$

$k = \frac{13}{15}$ or $.8\bar{6}$

25. $9g + 15 \geq (5g - 9)3$



$g \leq 7$