

2-5AB

HOMEWORK Practice

Form G

Literal Equations and Formulas **CHOOSE 20 QUESTIONS**Solve each equation for m . Then find the value of m for each value of n .

1. $m + 3n = 7; n = -2, 0, 1$

$m = 7 - 3n; 13; 7; 4;$

2. $3m - 9n = 24; n = -1, 1, 3$

$m = 8 + 3n; 5; 11; 17;$

3. $-5n = 4m + 8; n = -1, 0, 1$

$m = -\frac{5}{4}n - 2; -3\frac{1}{4}; -2; -\frac{3}{4};$

4. $2m = -6n - 5; n = 1, 2, 3$

$m = -3n - \frac{5}{2}; -5\frac{1}{2}; -8\frac{1}{2}; -11\frac{1}{2};$

5. $8n = -3m + 1; n = -2, 2, 4$

$m = -\frac{8n - 1}{3}; 5\frac{2}{3}; -5; -10\frac{1}{3}$

6. $4n - 6m = -2; n = -2, 0, 2$

$m = \frac{1 + 2n}{3}; -1; \frac{1}{3}; 1\frac{2}{3};$

7. $-5n = 13 - 3m; n = -3, 0, 3$

$m = \frac{5n + 13}{3}; -\frac{2}{3}; 4\frac{1}{3}; 9\frac{1}{3}$

8. $10m + 6n = 12; n = -2, -1, 0$

$m = \frac{6 - 3n}{5}; 2\frac{2}{5}; 1\frac{4}{5}; 1\frac{1}{5};$

Solve each equation for x .

9. $fx - gx = h$

$\frac{h}{f - g}$

10. $qx + x = r$

$\frac{r}{q + 1}$

11. $m = \frac{x + n}{p}$

$pm - n$

12. $d = f + fx$

$\frac{d}{f} - 1$

13. $-3(x + n) = x$

$-\frac{3}{4}n$

14. $\frac{x - 4}{y + 2} = 5$

$5y + 14$

Solve each problem. Round to the nearest tenth, if necessary. Use 3.14 for pi.

15. What is the width of a rectangle with length 14 cm and area 161 cm²?

11.5 cm

16. What is the radius of a circle with circumference 13 ft?

about 2.1 ft

17. A rectangle has perimeter 182 in. and length 52 in. What is the width?

39 in.

18. A triangle has base 7 m and area 17.5 m². What is the height?

5 m

2-5

Practice (continued)

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Literal Equations and Formulas

Solve each problem. Round to the nearest tenth, if necessary.

19. To find the average number of points per game a player scores, use the formula $\text{Points Per Game} = \frac{\text{Total Points}}{\text{Games}}$. Find the number of games a player has played if she has scored a total of 221 points and is averaging 17 points per game. **13 games**
20. Joan drives 333.5 miles before she has to buy gas. Her car gets 29 miles per gallon. How many gallons of gas did the car start out with? **11.5 gal**
21. Stan is purchasing sub-flooring for a kitchen he is remodeling. The area of the floor is 180 ft^2 and the width of the kitchen is 12 ft. What is the length of the sub-floor? **15 ft**

Solve each equation for the given variable.

22. $4k + mn = n - 3; n$
 $\frac{-4k - 3}{m - 1}$
23. $\frac{c}{d} + 2 = \frac{f}{g}; c$
 $d\left(\frac{f}{g} - 2\right)$
24. $3ab - 2bc = 12; c$
 $-\frac{6}{b} + \frac{3a}{2}$
25. $z = \left(\frac{x + y}{3}\right)w; y$
 $\frac{3z}{w} - x$
26. $-3(m - 2n) = 5m; m$
 $\frac{3n}{4}$
27. $A = \frac{1}{2}bcd + bc; d$
 $\frac{2(A - bc)}{bc}$
28. A room with width w , length l , and height h with four walls needs to be painted.
- Write a formula for the area that needs to be painted not accounting for doors or windows. **$A = 2lh + 2wh$**
 - Rewrite the formula to find h in terms of A , l , and w . **$\frac{A}{2l + 2w}$**
 - If l is 18 ft, w is 14 ft and A is 512 ft^2 , what is the height of the room? **8 ft**
 - Reasoning** Suppose l is equal to w . Write a formula for A in terms of w and h . **$A = 4wh$**