

Practice 2-6

Formulas

Solve each formula in terms of the given variable.

1. $ad = f$; a
2. $n + 3 = q$; n
3. $2(j + k) = m$; k
4. $2s + t = r$; t
5. $m + 2n = p$; n
6. $\frac{2}{w} = \frac{x}{5}$; w
7. $5a - b = 7$; a
8. $h = \frac{p}{n}$; p
9. $5d - 2g = 9$; g
10. $x + 3y = z$; x
11. $y = mx + b$; x
12. $V = \ell wh$; ℓ

The formula $A = 2h(\ell + w)$ gives the lateral area A of a rectangular solid with length ℓ , width w , and height h .

13. Solve this formula for h .
14. Find h if $A = 144 \text{ cm}^2$, $\ell = 7 \text{ cm}$, and $w = 5 \text{ cm}$.
15. Solve this formula for ℓ .
16. Find ℓ if $A = 729.8 \text{ in.}^2$, $h = 17.8 \text{ in.}$, and $w = 6.4 \text{ in.}$
17. Find h if $A = 37.4 \text{ ft}^2$, $\ell = 4.3 \text{ ft}$, and $w = 6.7 \text{ ft}$.
18. Find ℓ if $A = 9338 \text{ m}^2$, $h = 29 \text{ m}$, and $w = 52 \text{ m}$.

The formula $P = \frac{F}{A}$ gives the pressure P for a force F and an area A .

19. Solve this formula for A .
20. Find A if $P = 14.8 \text{ lb/in.}^2$ and $F = 2960 \text{ lb}$.
21. Solve this formula for F .
22. Find F if $P = 240 \text{ lb/in.}^2$ and $A = 20 \text{ in.}^2$.
23. Find A if $P = 46.8 \text{ lb/in.}^2$ and $F = 2340 \text{ lb}$.
24. Find F if $P = 24.5 \text{ lb/in.}^2$ and $A = 33.8 \text{ in.}^2$.

Solve each formula in terms of the given variable.

25. $3n - t = s$; t
26. $\frac{b + 3}{e} = \frac{f}{2}$; e
27. $w = 2xyz$; y
28. $k = 3mh + 3$; h
29. $ab = 6 + cd$; a
30. $2a + 4b = d$; b
31. $4xy + 3 = 5z$; y
32. $-2(3a - b) = c$; b

The formula $V = \frac{1}{3}\ell wh$ gives the volume V of a rectangular pyramid with length ℓ , width w , and height h .

33. Solve this formula for w .
34. Find w if $V = 64 \text{ m}^3$, $\ell = 6 \text{ m}$, and $h = 4 \text{ m}$.
35. Solve this formula for h .
36. Find h if $V = 30.45 \text{ ft}^3$, $\ell = 6.3 \text{ ft}$, and $w = 2.5 \text{ ft}$.
37. Find w if $V = 2346 \text{ in.}^3$, $\ell = 17 \text{ in.}$, and $h = 18 \text{ in.}$
38. Find h if $V = 7 \text{ ft}^3$, $\ell = \frac{7}{4} \text{ ft}$, and $w = \frac{3}{4} \text{ ft}$.

Solve each formula in terms of the given variable.

39. $2m - 3p = 1$; p
40. $a = b + cd$; b
41. $a + b = 2xz$; z
42. $x = 2y + 3z$; y
43. $\frac{a}{b} = \frac{c}{d}$; d
44. $2ab + 4 = d$; a
45. $\frac{5}{2} = \frac{1}{2}(b - c)$; b
46. $d(a - b) = c$; a