

Practice 2-6

Formulas

Solve each formula in terms of the given variable.

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| 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. $V = \ell wh; \ell$ |

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

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| 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 .

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| 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 $A = 33.8 \text{ in.}^2$. |

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| 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 .

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| 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 $w = \frac{3}{4} \text{ ft}$. |

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| 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. $d(a - b) = c; a$ |