

Multiplication and Division Equations

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1. $\frac{x}{3} = 12$; $3 \cdot \frac{x}{3} = 3 \cdot 12$; $x = 36$
2. $\frac{m}{5} = 4$; $5 \cdot \frac{m}{5} = 5 \cdot 4$; $m = 20$
3. $-27 = 9z$; $\frac{-27}{9} = \frac{9z}{9}$; $-3 = z$
4. $6w = 144$; $\frac{6w}{6} = \frac{144}{6}$; $w = 24$
5. $\frac{1}{3}n = 6$; $3 \cdot \frac{1}{3}n = 3 \cdot 6$; $n = 18$
6. $\frac{2y}{3} = 16$; $\frac{3}{2} \cdot \frac{2y}{3} = \frac{3}{2} \cdot 16$; $y = \frac{48}{2}$; $y = 24$
7. $-5y = 60$; $\frac{-5y}{-5} = \frac{60}{-5}$; $y = -12$
8. $-3 = \frac{a}{6}$; $6 \cdot (-3) = 6 \cdot \frac{a}{6}$; $-18 = a$
9. $-14 = \frac{1}{4}x$; $4 \cdot (-14) = 4 \cdot \frac{1}{4}x$; $-56 = x$
10. $-\frac{3}{5}x = 18$; $-\frac{5}{3} \cdot \left(-\frac{3}{5}x\right) = -\frac{5}{3} \cdot 18$; $x = -\frac{90}{3}$; $x = -30$
11. $\frac{y}{2} = 8.7$; $2 \cdot \frac{y}{2} = 2 \cdot 8.7$; $y = 17.4$
12. $-\frac{1}{5}b = -3.5$; $-5 \cdot \left(-\frac{1}{5}b\right) = -5(-3.5)$; $b = 17.5$
13. $14 = \frac{2a}{9}$; $\frac{9}{2} \cdot 14 = \frac{9}{2} \cdot \frac{2a}{9}$; $\frac{126}{2} = a$; $63 = a$
14. $-20.8 = -4n$; $\frac{-20.8}{-4} = \frac{-4n}{-4}$; $5.2 = n$
15. $23x = 92$; $\frac{23x}{23} = \frac{92}{23}$; $x = 4$
16. $-\frac{1}{8}t = 4$; $-8 \cdot \left(-\frac{1}{8}t\right) = -8 \cdot 4$; $t = -32$
17. $-15 = \frac{-5m}{7}$; $-\frac{7}{5} \cdot (-15) = -\frac{7}{5} \cdot \left(\frac{-5m}{7}\right)$; $\frac{105}{5} = m$; $21 = m$
18. $\frac{x}{18} = -3$; $18 \cdot \frac{x}{18} = 18 \cdot (-3)$; $x = -54$
19. (a) Let s represent the unit price per sheet, in dollars.
(b) $250s = 15$
(c) $250s = 15$; $\frac{250s}{250} = \frac{15}{250}$; $s = 0.06$
(d) The unit price was 6¢.
20. (a) Let d represent the unit price, in dollars.
(b) $9d = 33.75$
(c) $9d = 33.75$; $\frac{9d}{9} = \frac{33.75}{9}$; $d = 3.75$
(d) Each DVD cost \$3.75.
21. (a) Let f represent the cost per friend, in dollars, and round to the nearest cent.
(b) $6f = 5$
(c) $6f = 5$; $\frac{6f}{6} = \frac{5}{6}$; $f \approx 0.83$
(d) Each friend spent 83¢.
22. (a) Let z represent the unit price, in dollars.
(b) $25z = 3$
(c) $25z = 3$; $\frac{25z}{25} = \frac{3}{25}$; $z = 0.12$
(d) Each pretzel cost 12¢.
23. (a) Let n represent the cost of one night.
(b) $3n = 254.91$
(c) $3n = 254.91$; $\frac{3n}{3} = \frac{254.91}{3}$; $n = 84.97$
(d) Alejandra spent \$84.97 per night.
24. (a) Let f represent the cost of 1 lb of fruit.
(b) $7f = 20.72$
(c) $7f = 20.72$; $\frac{7f}{7} = \frac{20.72}{7}$; $f = 2.96$
(d) The fruit cost an average of \$2.96/lb.