

MATH APPLICATIONS (SECTION 6.5)

7. $\frac{24}{x} = \frac{18}{3}$

$18x = 72$

$x = 4$

9. $\frac{50}{4} = \frac{x}{5}$

$4x = 250$

$x = 62.5$

11. $\frac{x}{12} = \frac{3}{2}$

$2x = 36$

$x = 18$

13. $\frac{30}{40} = \frac{27}{x}$

$30x = 1080$

$x = 36$

15. $37.5 = k(7.5)$

$k = 5$

$y = 5(13)$

$y = 65$

17. $12 = \frac{k}{\frac{2}{3}}$

$k = 8$

$r = \frac{8}{8}$

$r = 1$

19. $16 = k(6^2)$

$k = \frac{4}{9}$

$a = \frac{4}{9}(15^2)$

$a = 100$

21. $\frac{3}{4} = \frac{k}{a}$

$k = \frac{3}{2}$

$D = \frac{3}{2} = \frac{1}{\frac{2}{3}}$

23. $12.5 = k(a)(5)$

$k = 1.25$

$r = (1.25)(8)(2.5)$

$r = 25$

25. $504 = k(4)(6^2)$

$k = 3.5$

$y = (3.5)(10)(14^2)$

$y = 6860$

27. $4 = \frac{k(6)}{10}$

$k = \frac{20}{3}$

$y = \frac{20}{3}(3)$

$y = \frac{4}{3}$

29. $15 = \frac{k(2.5^2)(8)}{20}$

$k = 6$

$y = (6)(8^2)(7)$

$y = 192$

$$31. \frac{150}{6} = \frac{65}{x}$$

$$150x = 390$$

$$x = 2.6 \text{ mg}$$

$$48. 30,000 = \frac{k}{3}$$

$$k = 10,000$$

$$y = \frac{10,000}{5}$$

$$y = 2,000 \text{ gal.}$$

$$47. 2.34 = k(45)$$

$$k = 0.052$$

$$y = 0.052(65)$$

$$y = \$3.38$$

$$53. 3200 = \frac{k(88)}{8}$$

$$k = 290.91$$

$$\frac{290.91(92)}{12}$$

$$y = 2,230 \text{ people}$$