

**MANIPULATING EQUATIONS PRACTICE**  
**ANSWERS**

Solve each equation for  $x$ .

$$1. x = \frac{a}{b}$$

$$2. x = \frac{b}{a}$$

$$3. x = \frac{b}{a^2}$$

$$4. x = \sqrt{\frac{b}{a}}$$

$$5. x = 3a - b$$

$$6. x = \frac{2a}{b}$$

$$7. x = \frac{a}{6b}$$

$$8. x = \sqrt{\frac{a}{b}}$$

$$9. x = \frac{a}{bc}$$

$$10. x = \frac{cb}{da}$$

$$11. x = \frac{a-c}{b}$$

$$12. x = c - d(a - b)$$

$$13. x = \frac{bd}{a-1}$$

$$14. x = \frac{c}{a+b}$$

$$15. x = \frac{ab-7}{3}$$

$$16. x = \frac{a+3}{b+c}$$

$$17. x = \frac{a}{1-bc}$$

$$18. x = \frac{5-4c}{ca-b}$$

$$19. x = \frac{a}{1-10b}$$

$$20. x = \frac{c}{ab} - 1$$

$$21. x = \sqrt{\frac{b-7}{a}}$$

$$22. x = \frac{5}{ab+cb} \text{ or } \frac{5}{b(a+c)}$$

$$23. x = \sqrt{\frac{ab^2}{b}} \text{ or } b\sqrt{\frac{a}{c}}$$

$$24. (ac + 1)^2$$

$$25. x = \sqrt{\frac{cd+1}{3ab}}$$

$$26. x = \frac{a}{(\pi r^2 + 2\pi)}$$

$$27. x = \frac{cdef}{abg}$$

$$28. x = \frac{a - \frac{1}{2}bc^2}{b}$$

$$29. x = 4b\left(\frac{3c}{d} + a\right)$$

$$30. x = -\frac{2(c-b)-3ab}{3a}$$