

## Practice: Solve Multi-Step Linear Equations

1. List the steps required to solve each linear equation.
  - a)  $5x - 20 = 45$
  - b)  $-r + 1 = 2$
  - c)  $\frac{m}{5} - 3 = 5$
  - d)  $4z - 1 = 7$
  - e)  $0 = t - 4$
  - f)  $-6 = 2(n - 1)$
2. Solve each equation from question 1.
3. Solve each equation.
  - a)  $2x + 5 = 3x - 10$
  - b)  $4y - 3 = 2y + 3$
  - c)  $r - 2 = -r + 18$
  - d)  $4 + z = z + 3z - 2$
  - e)  $0 = m - 3 + 2m$
4. Solve each equation.
  - a)  $-1 + z = z + 3(z - 1)$
  - b)  $6 = m - (3 + 2m)$
  - c)  $2(x + 3) = 3(x - 2)$
  - d)  $4(y - 1) = 2(y + 1)$
  - e)  $r - 3 = -2(r + 3)$
5. Solve each equation.
  - a)  $\frac{5a - 2}{3} = 1$
  - b)  $\frac{k - 1}{2} = -5$
  - c)  $\frac{2}{3}(x + 3) = 4$
  - d)  $-10 = \frac{2}{7}y$
6. Katie invested \$450 into an account that pays 2.5% interest each year. The value at maturity is represented by the equation  $A = 450 + (0.025 \times 450)n$ , where  $A$  is the total amount that Katie has in her account, and  $n$  is the number of years.
  - a) What will the amount be after 3 years?
  - b) What will be the amount be after 10 years?
  - c) If Katie wants to double her money to \$900, how many years would she have to invest?
7. Scott makes \$800 a month working at a grocery store. The store also gives him a 0.5% bonus for every hour he works in the month. His pay is represented by the equation  $A = 800 + (0.005 \times 800)n$ , where  $A$  is the total amount that Scott earns, and  $n$  is the number of hours he works in the month.
  - a) What will be Scott's earnings if he worked 160 h this month?
  - b) What will be his earnings at the end of the month if he worked 100 h?
  - c) If Scott wants to make \$1760 at the end of the month, how many hours would he have to work?