1. Evaluate the given expressions for $a = 2$, $b = -1$, and $c = 3$.

(a) $\dfrac{2a - b}{-c}$

(b) $(a - b)^2 + c$

(c) $\dfrac{a^2 - b^2 + 2ab}{3 - b}$

(d) $8 \div a + b \div c$

2. Evaluate the given expressions for $a = 3$, $b = -2$, and $c = 5$.

(a) $6a \div \left|a^2 - b^3\right| - a$

(b) $a \div b \cdot c$

(c) $b^2\left[-8b - (1 - 2ab)\right] \div bc$

(d) $a(b - 8) \div 5$

3. Simplify completely.

(a) $2x - 4x + 4y - x + 7y - 5x$

(b) $(5x^2 - 8x + 4) - (3x^2 + 11x - 4)$

(c) $5(2 - x) + 3(5 + x) - 2x$

(d) $2x - 3(x - 7) + 4x - 7$

(e) $\dfrac{8xy}{3x^2}$

(f) $\dfrac{56x^3y^8z^4}{72x^3y^7z^9}$

(g) $8 - 2[x - 2(x + 3) - 5]$

(h) $-\dfrac{2}{3}(9x + 6y)$

(i) $7x - 9 - 3y + 7z - x - 2y - 11z + 14$

(j) $3(x - 2y + 8z) - 4\left(3x - \dfrac{1}{2}y - \dfrac{1}{8}z\right)$

(k) $3 - 2(4 - 3x) + 2\left[5 - 3(4 - x)\right]$

(l) $4 - 3\left[2 - (1 - x)\right]$

(m) $\dfrac{2x}{4x^2}$

(n) $\dfrac{16x^3y^4}{48x^7y^2z}$

(o) $(b^2 - 4b + c) - (3z - b - c)$

(p) $-3x - 2[5 - 2(2x + 5)] + 5$

4. Identify the unknown quantity and translate the phrase into a variable expression.

(a) two more than twice a number

(b) five less than three times the sum of a number and nine

(c) the difference between a number and five more than twice the number.

5. A rope is cut into two pieces. Express the length of each piece.

6. Two executives from different cities plan a meeting. They decide to meet at the Ritz Carlton Hotel in a city between them, and each executive plans to drive taking the most direct route to the hotel. If the combined distance that they travel to the Ritz Carlton from their home cities is 500 miles, express the distance traveled by each executive.

7. A piece of wire is cut into two pieces. One piece is used to form a square and the other piece is used to form a circle. Express the length of the side of the square and the diameter of the circle.

8. Write a variable expression to describe the following: one bat and a half-dozen baseballs cost $47.

9. Write a variable expression to describe the following: two pounds of red grapes and three pints of blueberries cost $7.99.