1. Perform each of the indicated operations.

   (a) $\sqrt{60 \div 4 \div 5 + 1} =$ 2

   (b) $20 - |32 \div (-2)| =$ 4

   (c) $\dfrac{-3^2 + 30 \div (-2)}{-4} =$ 6

   (d) $(9-6)^2 =$ 9

   (e) $9^2 - 6^2 =$ 45

   (f) $16 - \sqrt{2^3 - 2^2} - 5 =$ 9

   (g) $\sqrt{25} \cdot \dfrac{-3^5 + (-1)^3}{\left|(-5)^3 - \left|6 + (-5)^3\right|\right|} =$ -5

   (h) $\dfrac{3 + (6^2 - 3^2) + (3^3 - 2^3) - 9}{4^2 + (5-3)^2} =$ 2

   (i) $\sqrt{\sqrt{3^6} - 2\left(3^2 + 3^3\right) + 2\left(4\left(17 - 2^3\right) - 3^2\right)} =$ 3

   (j) $2 \cdot 3^2 - (6 - 4 + (6 \cdot 4 - 3(2^4 - 12))) =$ 4

2. Let $a = -4$, $b = 2$, and $x = -3$. Evaluate each of the following expressions.

   (a) $a^2 - b^2 =$ 12

   (b) $(a-b)^2 =$ 36

   (c) $a^b - 2bx + x - |2x| =$ 19

   (d) $\dfrac{-x^2 + (x+2)^2}{(x-1)} =$ 2

   (e) $\dfrac{x-1}{x+3} =$ undefined

3. Simplify each of the following expressions. Show all steps.

   (a) $(2a + b) - (a - b) =$ $a + 2b$

   (b) $4(2a - b) - 3(2a - 4b) =$ $2a + 8b$

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

   (d) $(2a - 2b) - (b - a) =$ $3a - 3b$

   (e) $-(3a - 2) - (1 - 4a) =$ $a + 1$