2 A Bit of Review Practice Problems

1. In each of the following, list the order in which the operations are being applied to x.

   (a) $5(3x + 1)^2$

      i. **Multiply by 3**
      ii. **Add 1**
      iii. **Square**
      iv. **Multiply by 5**

   (b) $\dfrac{5 - x}{17}$

      i. **Negate**
      ii. **Add 5**
      iii. **Divide by 17**

2. In each of the following, list the order in which the operations are being applied to c.

   (a) $a(bc + d)^2$

      i. **Multiply by** b
      ii. **Add** d
      iii. **Square**
      iv. **Multiply by** a

   (b) $d^2 - \pi c$

      i. **Multiply by** π
      ii. **Negate**
      iii. **Add** d^2

3. In each of the following, list the order in which the operations are being applied to d.

   (a) $a(bc + d)^2$

      i. **Add** bc
      ii. **Square**
      iii. **Multiply by** a

   (b) $d^2 - \pi c$

      i. **Square**
      ii. **Subtract** πc

4. **TRUE or FALSE**

   (a) **FALSE** 11 is the only square root of 121.
   (b) **FALSE** $\sqrt{121} = \pm 11$

(c) **FALSE** $\sqrt{3^2 + 4^2} = \sqrt{3 + 4}$

5. Simplify.

   (a) $\sqrt{75}\sqrt{12} = \mathbf{30}$

   (b) $\dfrac{\sqrt{567}}{\sqrt{45}} = \dfrac{\mathbf{3\sqrt{7}}}{\mathbf{5}}$

   (c) $\sqrt{2535} - \sqrt{135}. = \mathbf{10\sqrt{15}}$

6. Find the exact value of the expression. You may not use parentheses in your answer. Which of the expressions are positive?

   (a) $-(\sqrt{245} - 13) = \mathbf{13 - \sqrt{245}}$, **negative**

   (b) $-(x - 6)$ if $x > 6 = \mathbf{6 - x}$, **negative**

   (c) $-(x - 6)$ if $x < 6 = \mathbf{6 - x}$, **positive**

   (d) $-((\pi - 3) - 1) = \mathbf{4 - \pi}$, **positive**