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) $\sqrt{75}\sqrt{12}$ **=30**

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

   (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**