

## Module 3 Review Solutions

$$1. 4^3 - 6(16 + 5^3) - 6 = 64 - 6(16 + 125) - 6 = 64 - 6(141) - 6 \\ = 64 - 846 - 6 = \boxed{-788}$$

$$2. \frac{2}{3} \left( \frac{5}{9} + \frac{1}{18} \right) - \frac{3}{4} = \frac{2}{3} \left( \frac{25}{45} + \frac{3}{45} \right) - \frac{3}{4} = \frac{2}{3} \left( \frac{28}{45} \right) - \frac{3}{4} \\ = \frac{56}{135} - \frac{3}{4} = \frac{224}{540} - \frac{405}{540} = \boxed{\frac{-181}{540}}$$

$$3. 4(-3x + 5) - 2(6 + 7x) = -12x + 20 - 12 - 14x = \boxed{-26x + 8}$$

$$4. 5 - 4(6x + 3) = 5 - 24x - 12 = \boxed{-24x - 7}$$

$$5. a^2 + b^3 = 5^2 + (-2)^3 = 25 - 8 = \boxed{17}$$

$$6. 3a + 5b^2 = 3(5) + 5(-2)^2 = 15 + 5(4) = 15 + 20 = \boxed{35}$$

$$7. 3x - 5 = -20$$

$$3x = -15$$

$$\boxed{x = -5}$$

$$8. 9 + 4x = 10$$

$$4x = 1$$

$$\boxed{x = \frac{1}{4}}$$

$$9. \frac{4}{5} \cdot \frac{15}{28} = \frac{4}{\cancel{5}} \cdot \frac{\cancel{5} \cdot 3}{\cancel{4} \cdot 7} = \boxed{\frac{3}{7}}$$

$$10. \frac{9}{16} \div \frac{5}{8} = \frac{9}{\cancel{8} \cdot 2} \cdot \frac{\cancel{8}}{5} = \boxed{\frac{9}{10}}$$

$$11. a.) \begin{array}{c} \xrightarrow{+9} \\ \hline -5 \qquad 4 \end{array} \quad -5 + 9 = \boxed{4}$$

$$11. b.) \begin{array}{c} \xleftarrow{-3} \\ \hline -7 \qquad -4 \end{array} \quad -4 - 3 = \boxed{-7}$$

$$12. a.) -20 - (-3) = -20 + 3 = \boxed{-17} \quad b.) 13 + (-11) = \boxed{2}$$

$$c.) -12 + 8 = \boxed{-4} \quad d.) (-2)(4)(-1) = \boxed{8}$$

$$e.) (8)(-3)(0)(5) = \boxed{0} \quad f.) (-1)(-2)(3)(-4) = \boxed{-24}$$