

6.4 through 6.7 TEST REVIEW

Learning Target 6D

Simplify the following radical expressions:

1) $\sqrt[4]{81(3x + 7)^{16}}$

2) $-\sqrt{363a^8b^5}$

3) $\sqrt[3]{128}$

4) $\sqrt[3]{64(x - 4)^9}$

5) $\sqrt{196a^4b^3}$

6) $6\sqrt{72} + 7\sqrt{98} - \sqrt{50}$

7) $5\sqrt{12} + 2\sqrt{27} - \sqrt{128}$

8) $3\sqrt{90} + 4\sqrt{20} + \sqrt{162}$

9) $9\sqrt{12} + 5\sqrt{32} - \sqrt{72}$

10) $5\sqrt[3]{-12ab^4} \times 3\sqrt[3]{18a^2b^2}$

11) $(6\sqrt{5} + 2\sqrt{2})(3\sqrt{5} + 2\sqrt{2})$

12) $\frac{\sqrt{6m^5}}{\sqrt{p^{11}}}$

13) $\frac{\sqrt[3]{24x^7}}{\sqrt[3]{3x}}$

Learning Target 6E

14) a. Write the following expression as a rational exponent: $\sqrt[5]{x^7}$

a. _____

b. Write the following expression as a radical expression: $x^{\frac{9}{5}}$

b. _____

15) Write the following expression as a radical expression and simplify: $-3125^{-\frac{1}{5}}$

16) Write the following expression as a radical expression and simplify: $256^{\frac{3}{8}}$

17) Simplify the following expression: $\frac{\sqrt[4]{27}}{\sqrt{3}}$

18) Simplify the following expression: $\sqrt[4]{x} \times \sqrt[9]{x^4}$

Learning Target 6F

19) Solve the following equation: $2(6x - 3)^{\frac{1}{3}} - 4 = 0$

20) Solve the following equation: $(x - 2)^{\frac{1}{2}} - 1 = 5$

21) Solve the following inequality: $3 + \sqrt{5x - 10} \leq 8$

22) Solve the following inequality: $\sqrt{2x + 2} + 1 \geq 5$