Name: _____

SM2 Unit 2 Extra Practice

2.1-Simplify each radical expression.

1) $\sqrt{12x^2}$

2) $\sqrt[3]{72x^5y^3}$

3) $\sqrt[3]{1000p^4qr}$

4) $\sqrt{150a^2}$

5) $\sqrt[4]{243x^7y^2z^3}$

6) $\sqrt[5]{32x^{10}y^7}$

7) $\sqrt{27k^2}$

8) $\sqrt[3]{-625u^3v^4}$

9) $\sqrt[3]{200xy^4}$

10) $\sqrt[5]{200xy^4}$

2.2-Simplify each expression with multiple radicals.

11) $-2\sqrt{54}+3\sqrt{6}+3\sqrt{24}$

12) $-3\sqrt{5}+2\sqrt{45}-2\sqrt{18}$

13) $\sqrt{12a}\cdot\sqrt{12a^2}$

14) $-5\sqrt{8m}\cdot 3\sqrt{2m^2}$

15) $\sqrt{15}(3-\sqrt{6})$

16) $\sqrt{6}(\sqrt{6}+4)$

Rationalize each denominator.

17) $\dfrac{2}{\sqrt{5}}$

18) $\dfrac{3}{\sqrt{8}}$

19) $\dfrac{10\sqrt{2}}{\sqrt{3}}$

20) $\dfrac{7\sqrt{6}}{\sqrt{14}}$

2.3-Solve each equation using radicals.

21) $x^2 = 100$

22) $y^2 = 64$

23) $x^3 = 64$

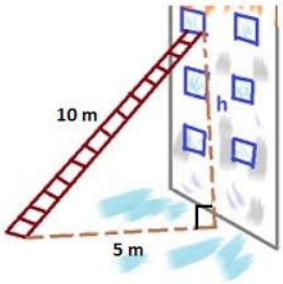
24) $x^3 = 125$

25) $(x + 1)^2 = 9$

26) $2y^3 + 7 = 61$

2.4- Sketch a diagram to represent the situation. Write an equation to represent the situation. Solve the equation.

27) How far up the wall will the ladder reach?



28) Galileo dropped a cannon ball from the top of the Leaning Tower of Pisa. The ball was dropped from a height of $191\ ft$. Given the Tower is $196.85\ ft$. How far away from the base of the tower does the cannon ball land?

29) A cherry pie has a top surface area of $63.617\ in^2$. What is the diameter of the pie?

30) A regular six sided die has a volume of $125\ mm^3$. What is the side length of the die?