Bell Work

2. The value of Amy's car depreciated each year. The expression $k(0.88)^t$ represents the value of Amy's car after t years. What is the rate of depreciation?

A. 0.12%

B. 0.88%

C. 12%

D. 88%

Multiply each pair of conjugates.

17. $(3\sqrt{2}-9)(3\sqrt{2}+9)$

$9(2)+\cancel{27\sqrt{2}}-\cancel{27\sqrt{2}}-81$

$18-81=\boxed{-63}$

19. $(5\sqrt{3}+\sqrt{2})(5\sqrt{3}-\sqrt{2})$

$25(3)-2$

$75-2=\boxed{73}$

Rationalize each denominator. Simplify the answer.

21. $\dfrac{3-\sqrt{10}}{\sqrt{5}-\sqrt{2}}\dfrac{(\sqrt{5}+\sqrt{2})}{(\sqrt{5}+\sqrt{2})}$

$\dfrac{3\sqrt{5}+3\sqrt{2}-\overset{\sqrt{25}\sqrt{2}}{\sqrt{50}}-\overset{\sqrt{4}\sqrt{5}}{\sqrt{20}}}{5-2}$

$\dfrac{3\sqrt{5}+3\sqrt{2}-5\sqrt{2}-2\sqrt{5}}{3}$

$\boxed{\dfrac{\sqrt{5}-2\sqrt{2}}{3}}$

23. $\dfrac{(2+\sqrt[3]{x})}{\sqrt[3]{x}}\cdot\dfrac{\sqrt[3]{x^2}}{\sqrt[3]{x^2}}$

$\dfrac{2\sqrt[3]{x^2}+\sqrt[3]{x^3}}{\sqrt[3]{x^3}}$

$\boxed{\dfrac{2\sqrt[3]{x^2}+x}{x}}$

25. $\dfrac{7+\sqrt{5}}{6-\sqrt{5}} \dfrac{(6+\sqrt{5})}{(6+\sqrt{5})}$

$$\frac{42+7\sqrt{5}+6\sqrt{5}+5}{36-5} = \frac{47+13\sqrt{5}}{31}$$

Simplify. Assume that all the variables are positive.

27. $\sqrt{28} + 4\sqrt{63} - 2\sqrt{7}$

$\sqrt{4}\sqrt{7} + 4\sqrt{9}\sqrt{7} - 2\sqrt{7}$

$2\sqrt{7} + 12\sqrt{7} - 2\sqrt{7}$

$\boxed{12\sqrt{7}}$

29. $3\sqrt{225x} + 5\sqrt{144x}$

$3(15)\sqrt{x} + 5(12)\sqrt{x}$

$45\sqrt{x} + 60\sqrt{x}$

$105\sqrt{x}$