14. Given this property of exponents:

$$a^m \cdot a^n = a^{m+n}$$

Which of the following must also be true?

A. $a^{\frac{2}{3}} \cdot a^{\frac{1}{3}} = a^{\frac{2}{9}}$

B. $a^{\frac{2}{3}} \cdot a^{\frac{1}{3}} = a^{\frac{1}{3}}$

C. $a^{\frac{2}{3}} \cdot a^{\frac{1}{3}} = a^{\frac{3}{6}}$

D. $a^{\frac{2}{3}} \cdot a^{\frac{1}{3}} = a$

15. Several input- and output- values of a function are shown in the table below.

x	f(x)
1	2
2	4
3	8
4	16
5	32

Which is the best interpretation of the average rate of change of this function?

A. As x increases by 1, $f(x)$ increases by 2; therefore, $f(x)$ is a linear function.

B. As x increases by 1, $f(x)$ increases by 2; therefore, $f(x)$ is an exponential function.

C. As x increases by 1, $f(x)$ increases by a power of 2; therefore, $f(x)$ is a linear function.

D. As x increases by 1, $f(x)$ increases by a power of 2; therefore, $f(x)$ is an exponential function.

16. Given that $(5^{\frac{1}{3}})^3 = 5$, what must be the value of $5^{\frac{1}{3}}$?

A. $3\sqrt{5}$

B. $\sqrt[3]{5}$

C. $(\sqrt[3]{5})^3$

D. $\frac{5}{3}$

17. A company made $20,000 in revenue in one year. The president of the company determined that the company's revenue needs to increase by 10% each year to be successful. If t represents the number of years that have passed and $R(t)$ represents the yearly revenue goal, which expression could the president of the company use to determine the revenue goal for any year?

A. $R(t) = 0.10t^{20,000}$

B. $R(t) = 20,000 \cdot 1.10^t$

C. $R(t) = 1.10 \cdot 20,000^t$

D. $R(t) = 20,000^{1.10t}$

Go On ▶