

1. Which of the following is the slope of a line that is perpendicular to the line  $3x + 5y = 20$ ?

(A)  $-3/5$

(B)  $3/5$

(C)  $5/3$

(D) None of the above.

2. Which of the following is equal to  $\log_5 \left( \frac{1}{25} \right)$ ?

(A)  $-2$

(B)  $1/2$

(C)  $-1/2$

(D) None of the above.

3. Which of the following is equal to  $8^{3\log_8(2)}$ ?

(A) 1

(B) 6

(C) 8

(D) None of the above.

4. True or False?

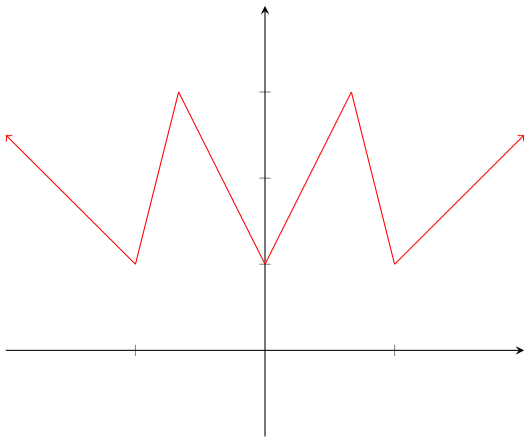
$5^{x+y} = 5^x 5^y$  for all real numbers  $x, y$ .

5. True or False?

$$e^{\ln(x)-\ln(y)} = \frac{x}{y} \text{ for all } x, y > 0.$$

6. True or False?

The following is the graph of an even function.



7. True or False?

The function  $g(x) = \cos(x)$  is odd.

8. Which of the following is equal to  $\sin\left(\theta + \frac{\pi}{2}\right)$ ?

(A)  $\cos(\theta)$

(B)  $\sin(\theta)$

(C)  $-\sin(\theta)$

(D) None of the above.



9. True or False?

$\ln(x + y) = \ln(x) \ln(y)$  for all  $x, y > 0$ .