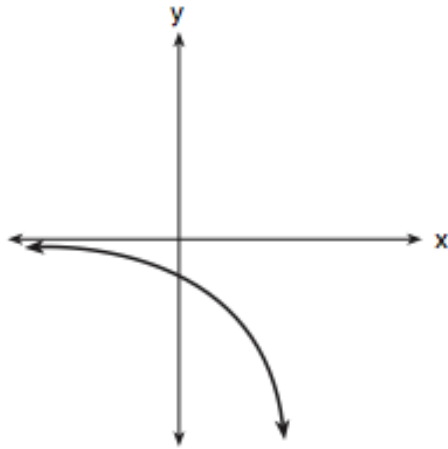


Exponential Functions

1. Which equation is represented by the accompanying graph?



- (1) $y = 2^x$ (3) $y = 2^{-x}$
 (2) $y = -2^x$ (4) $y = x^2 - 2$

2. If $a > 0$, which function represents the reflection of $y = a^x$ in the y -axis?

- (1) $y = -a^x$ (3) $y = \left(\frac{1}{a}\right)^{-x}$
 (2) $y = \left(\frac{1}{a}\right)^x$ (4) $x = a^y$

3. Evaluate the expression $(x + 3)^{\frac{1}{2}} + (x - 3)^0 + (x + 2)^{-\frac{2}{3}}$ when $x = 6$.

4. Solve algebraically for x : $9^{3x} = 3^{3x} + 1$

5. If $10^k = x$, then 10^{3k} is equal to

- (1) x^3 (3) $3x$
 (2) $3 + x$ (4) $1,000x$

6. If $2^{(16x^2 - 8x - 3)} = 1$, what does x equal?

- (1) $\frac{1}{4}$, only (3) $\frac{1}{4}$ and $-\frac{3}{4}$
 (2) $\frac{3}{4}$, only (4) $-\frac{1}{4}$ and $\frac{3}{4}$

7. The graph of the function $f(x) = a^x$ is shown on the accompanying set of axes. On the same set of axes, sketch the reflection of $f(x)$ in the y -axis. State the coordinates of the point where the graphs intersect.

