

## Exponential Functions - Practice

**Evaluate each function.**

1)  $w(x) = 5^{3x}$ ; Find  $w(1)$

125

2)  $f(n) = 4^n - 3$ ; Find  $f(-2)$

 $-\frac{47}{16}$ 

3)  $f(n) = 3^{n+3}$ ; Find  $f(-1)$

9

4)  $f(a) = 3^a + 3$ ; Find  $f(2)$

12

5)  $h(t) = 5^t$ ; Find  $h(2)$

25

6)  $h(x) = 2^{3x} - 3$ ; Find  $h(-1)$

 $-\frac{23}{8}$ 

7)  $k(a) = 4^{a+1} + 1$ ; Find  $k(a - 1)$

 $4^a + 1$ 

8)  $p(a) = 3 \cdot 2^{3a-1}$ ; Find  $p(a + 2)$

 $3 \cdot 2^{3a+5}$

9)  $w(x) = 4^{x+1} - 2$ ; Find  $w(-3t)$

$$4^{-3t+1} - 2$$

10)  $w(n) = -5^{n+3}$ ; Find  $w(n+3)$

$$-5^{n+6}$$

11)  $w(a) = 2 \cdot 4^{-a} + 3$ ; Find  $w(a^2)$

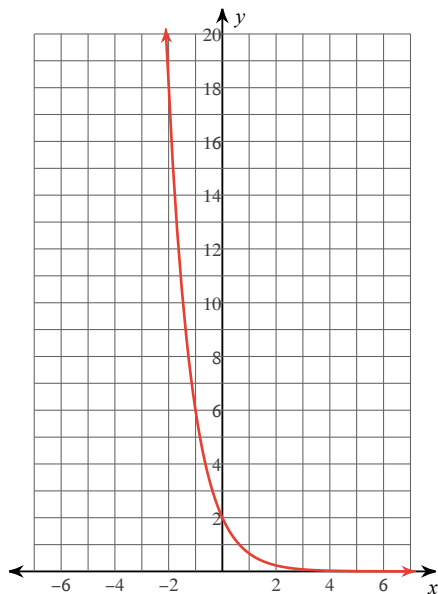
$$2 \cdot 4^{-a^2} + 3$$

12)  $f(a) = 5^{a+3}$ ; Find  $f(a-3)$

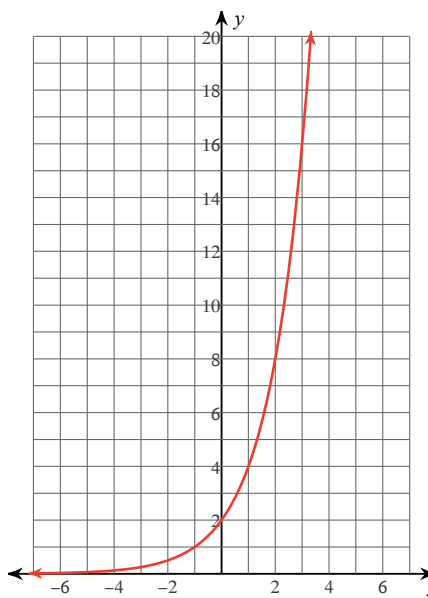
$$5^a$$

**Sketch the graph of each function.**

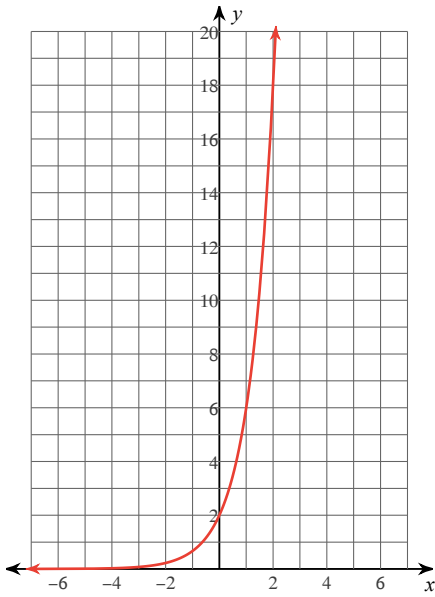
13)  $f(x) = 2 \cdot \left(\frac{1}{3}\right)^x$



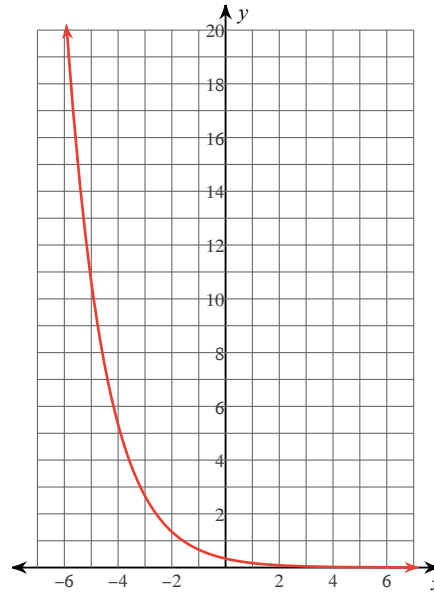
14)  $f(x) = 2 \cdot 2^x$



15)  $f(x) = 2 \cdot 3^x$



16)  $f(x) = \frac{1}{3} \cdot \left(\frac{1}{2}\right)^x$



**Use simple interest to find the ending balance.**

17) \$840 at 9.3% for  $4\frac{1}{2}$  years

**\$1,191.54**

18) \$8,300 at 3.6% for  $\frac{1}{4}$  years

**\$8,374.70**

19) \$17,100 at 4.8% for  $5\frac{3}{4}$  years

**\$21,819.60**

20) \$34,000 at 13.4% for  $2\frac{1}{2}$  years

**\$45,390.00**

21) \$41,600 at 3% for  $4\frac{3}{4}$  years

\$47,528.00

**Find the total value of the investment after the time given.**

22) \$20,200 at 5.9% compounded annually for 4 years

\$25,405.94

23) \$180 at 14.3% compounded quarterly for 4 years

\$315.76

24) \$13,200 at 10.3% compounded semiannually for 2 years

\$16,136.56

25) \$1,520 at 11% compounded semiannually for  $5\frac{1}{2}$  years

\$2,739.18

26) \$1,380 at 1.9% compounded quarterly for 2 years

\$1,433.32