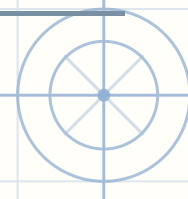


## Exponential functions — Finding the exponent

Name: \_\_\_\_\_

Date: \_\_\_\_\_



Find the value of  $x$  that makes each function equal the number given.

1  $f(x) = 4 \cdot 6^x$   $f(x) = 864$ ,  $x =$  \_\_\_\_\_

2  $f(x) = 2 \cdot 6^x$   $f(x) = 2592$ ,  $x =$  \_\_\_\_\_

3  $f(x) = 10 \cdot 2^x$   $f(x) = 160$ ,  $x =$  \_\_\_\_\_

4  $f(x) = 5 \cdot 4^x$   $f(x) = 320$ ,  $x =$  \_\_\_\_\_

5  $f(x) = 5 \cdot 5^x$   $f(x) = 3125$ ,  $x =$  \_\_\_\_\_

6  $f(x) = 7 \cdot 2^x$   $f(x) = 28$ ,  $x =$  \_\_\_\_\_

7  $f(x) = 2 \cdot 2^x$   $f(x) = 32$ ,  $x =$  \_\_\_\_\_

8  $f(x) = 4 \cdot 8^x$   $f(x) = 2048$ ,  $x =$  \_\_\_\_\_

9  $f(x) = 5 \cdot 8^x$   $f(x) = 2560$ ,  $x =$  \_\_\_\_\_

10  $f(x) = 8 \cdot 6^x$   $f(x) = 288$ ,  $x =$  \_\_\_\_\_



## Exponential functions · Finding the exponent — Answer key

1.  $f(x) = 4 \cdot 6^x$ ,  $f(x) = 864 \rightarrow x = 3$

5.  $f(x) = 5 \cdot 5^x$ ,  $f(x) = 3125 \rightarrow x = 4$

9.  $f(x) = 5 \cdot 8^x$ ,  $f(x) = 2560 \rightarrow x = 3$

2.  $f(x) = 2 \cdot 6^x$ ,  $f(x) = 2592 \rightarrow x = 4$

6.  $f(x) = 7 \cdot 2^x$ ,  $f(x) = 28 \rightarrow x = 2$

10.  $f(x) = 8 \cdot 6^x$ ,  $f(x) = 288 \rightarrow x = 2$

3.  $f(x) = 10 \cdot 2^x$ ,  $f(x) = 160 \rightarrow x = 4$

7.  $f(x) = 2 \cdot 2^x$ ,  $f(x) = 32 \rightarrow x = 4$

4.  $f(x) = 5 \cdot 4^x$ ,  $f(x) = 320 \rightarrow x = 3$

8.  $f(x) = 4 \cdot 8^x$ ,  $f(x) = 2048 \rightarrow x = 3$

