Name : _____

Missing Base or Exponent

Find the value of x.

1) $256 = 2^x$

$x =$ _____

2) $x^9 = 512$

$x =$ _____

3) $(-5)^{-x} = -125$

$x =$ _____

4) $x^8 = 6{,}561$

$x =$ _____

5) $2{,}401 = 7^x$

6) $x^3 = -343$

$x =$ _____

7) $2^x = 32$

$x =$ _____

$5{,}561 = 9^{-x}$

$x =$ _____

10) $x^4 = 4{,}096$

$x =$ _____

$x^2 = 36$

$x =$ _____

13) What is the value of x

$x =$ _____

f x, $2^{-x} = 16$?

$x =$ _____

15) If $2{,}187 = x^7$, then which of these can be the value of x?

i) 3 ii) –3 iii) 7 iv) –7

Name : _____

Answer key

Integers: S3

Missing Base or Exponent

Find the value of x.

1) $256 = 2^x$

$x =$ **8**

2) $x^9 = 512$

$x =$ **2**

3) $(-5)^{-x} = -125$

$x =$ **–3**

4) $x^8 = 6{,}561$

$x =$ **3 or –3**

5) $2{,}401 = 7^x$

6) $x^3 = -343$

$x =$ **–7**

7) $2^x = 32$

$x =$ **5**

$5{,}561 = 9^{-x}$

$x =$ **–4**

10) $x^4 = 4{,}096$

$x =$ **8 or –8**

$x^2 = 36$

$x =$ **6 or –6**

13) What is the value of x if $x, 2^{-x} = 16$?

$x =$ **2**

$x =$ **–4**

15) If $2{,}187 = x^7$, then which of these can be the value of x?

i) 3 ✓ ii) –3 iii) 7 iv) –7