

1

Is  $10^m < 5,000$ ?

- (1)  $10^{(m+1)} > 9,000$
- (2)  $10^{(m-1)} = 10^m - 900$

2

If  $m$  and  $n$  are negative integers what is the value of  $m \cdot n$

- (1)  $m^n = 1/81$
- (2)  $n^m = -(1/64)$

3

If  $x$  and  $y$  are nonzero integers, is  $(x^{(-1)} + y^{(-1)})^{(-1)} > (x^{(-1)} \cdot y^{(-1)})^{(-1)}$ ?

- (1)  $x = 2y$
- (2)  $x + y > 0$

4

Is  $5^k$  less than 1,000?

- (1)  $5^{(k+1)} > 3,000$
- (2)  $5^{(k-1)} = (5^k) - 500$

5

If  $x$ ,  $y$ , and  $n$  are positive integers, is  $(x/y)^n$  greater than 1,000?

- (1)  $x=y^3$  and  $n>y$
- (2)  $x>5y$  and  $n>x$

6

If  $x$ ,  $y$ , and  $n$  are positive integers, is  $(x/y)^n$  greater than 1,000?

- (1)  $x=y^3$  and  $n>y$
- (2)  $x>5y$  and  $n>x$

7

Is  $3^{(a^2/b)} < 1$ ?

- (1)  $a < 0$
- (2)  $b < 0$