ID: f5c3e3b8

Advanced Math E ~ #1

Which expression is equivalent to $\left(m^4q^4z^{-1}\right)\left(mq^5z^3\right)$, where m, q, and z are positive?

A. $m^4q^{20}z^{-3}$

B. $m^5q^9z^2$

C. $m^6q^8z^{-1}$

D. $m^{20}q^{12}z^{-2}$

ID: ad03127d

Advanced Math E ~ #2

$$6r = 7s + t$$

The given equation relates the variables r, s, and t. Which equation correctly expresses s in terms of r and t?

A. $s = 42r - t$

B. $s = 7(6r - t)$

C. $s = \frac{6}{7}r - t$

D. $s = \frac{6r - t}{7}$

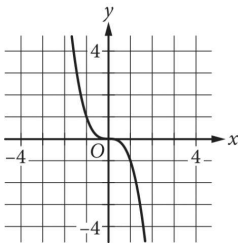
ID: b39d74a0

Advanced Math E ~ #3

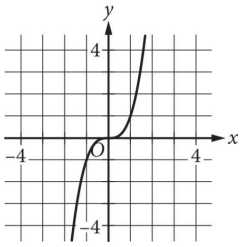
x	y
0	0
1	1
2	8
3	27

The table shown includes some values of x and their corresponding values of y. Which of the following graphs in the xy-plane could represent the relationship between x and y ?

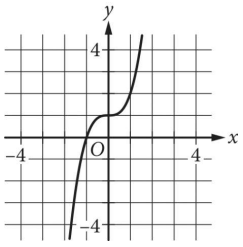
A.



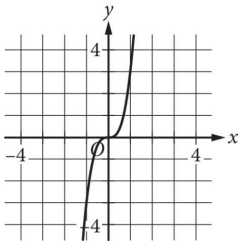
B.



C.



D.



ID: 3de7a7d7

Advanced Math E ~ #4

Which of the following is a solution to the equation $2x^2 - 4 = x^2$?

A. 1

B. 2

C. 3

D. 4

ID: 60fdb4d4

Advanced Math E ~ #5

Which expression is equivalent to $(2x^2-4)-(-3x^2+2x-7)$?

A. $5x^2-2x+3$

B. $5x^2+2x-3$

C. $-x^2-2x-11$

D. $-x^2+2x-11$

ID: 5377d9cf

Advanced Math E ~ #6

If $f(x) = \frac{x^2 - 6x + 3}{x - 1}$,

what is $f(-1)$?

A. –5

B. –2

C. 2

D. 5

$x + y = 12$

$y = x^2$

If (x, y) is a solution to the system of equations above, which of the following is a possible value of x?

A. 0

B. 1

C. 2

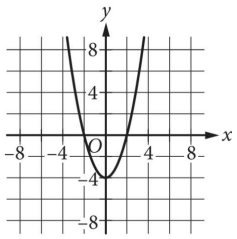
D. 3

Advanced Math E ~ #8

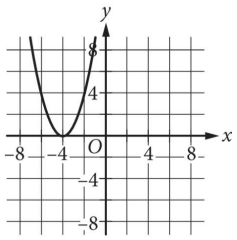
$f(x) = x^2 + 4$

The function *f* is defined as shown. Which of the following graphs in the *xy*-plane could be the graph of $y = f(x)$?

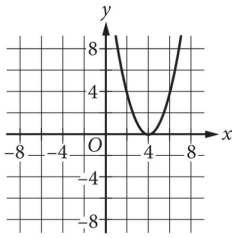
A.



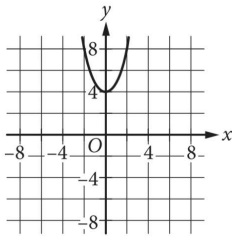
B.



C.



D.



ID: a67a439d

Advanced Math E ~ #9

$$x + 7 = 10$$
$$(x + 7)^2 = y$$

Which ordered pair (x, y) is a solution to the given system of equations?

A. $(3, 100)$

B. $(3, 3)$

C. $(3, 10)$

D. $(3, 70)$

ID: 2cf7f039

Advanced Math E ~ #10

The function f is defined by $f(x) = 8\sqrt{x}$. For what value of x does $f(x) = 48$?

A. 6

B. 8

C. 36

D. 64