Plug in Numbers

April 2015

3) What is the value of the expression rad m/x-3 when x = -1 and m = -16?

A. -2

B. 2

C. 2 rad 2

D. 2*i*

E. 2*i* rad 2

June 2015

18. The function *f* is defined as *f(x)* = -4x3 -4x2. What is the *f*(-4) ?

F. -320

G. -192

H. 16

J. 192

K. 320

26. For all nonzero values of a and b, the value of which of the following expressions is *always* negative?

F. a – b

G. -a – b

H. |a| + |b|

J. |a| - |b|

K. -|a| - |b|

38) At a local post office, on average, 3 customers are in line when the post office closed each day. The probability, P, that exactly *n* customers are in line when the post office closes can be modeled by the equation P = 3ne-3 / n! . Given that e-3 ≈ 0.05, which of the following values is closest to the probability that exactly 2 customers are in line when the post office closes?

**F.** 0.08

**G.** 0.11

**H.** 0.15

**J.** 0.23

**K.** 0.45

December 2015

48. For every negative real value of x, all of the following statements are true EXCEPT:

F. |x| > 0

G. 2x < 0

H. x5 < 0

J. x – x2 < 0

K. |x| - x = 0

April 2016

9) If g(x) = 2x2 - 3x + 4, then g(-3) = ?

**A.** -23

**B**. -5

**C.** 1

**D.** 13

**E.** 31

13) The population of a particular town is modeled by the equation P = 120,000(1.1)t, where *t*  is the number of years after January 1, 2011. Based on the model, which of the following numbers is closest to the population of the town on January 1, 2013?

**A.** 132,000

**B.** 145,000

**C.** 160,000

**D.** 264,000

**E.** 396,000

56. If *a* is a positive even integer and *b* is a positive odd integer, then [(-3)(+3)]ab is:

F. positive and even.

G. positive and odd.

H. zero.

J. negative and even.

K. negative and odd.

June 2016

17) A function *g* is defined as g(x,y,z) = 4xy - 3xz2. What is g(2,4,-3)?

**A.** -22

**B.** -4

**C.** 8

**D.** 68

**E.** 86

April 2017

4. Let the function *f* be defined as *f*(x) = 5x2 – 7(4x + 3). What is the value of *f*(3)?

F. -18

G. -26

H. -33

J. -60

K. -75

8. When x = ½, what is the value of (8x – 3) / x ?

F. 1/2

G. 2

H. 5/2

J. 5

K. 10

18. For which of the following condition will the sum of integers *m* and *n always* be an odd integer?

F. *m* is an odd integer.

G. *n* is an odd integer.

H. *m* and *n* are both odd integers.

J. *m* and *n* are both even integers.

K. *m* is an odd integer and *n* is an even integer.

29) The number *a* is located at -2.5 on the number line below.

One of the following number lines shows the location of *a2.* Which number line is it?

1. [Image]
2. [Image]
3. [Image]
4. [Image]
5. [Image]

42. The number of decibels, d, produced by an audio source can be modeled by the equation d = 10log(I/K), where I is the sound intensity of the audio source and K is a constant. How many decibels are produced by an audio source whose sound intensity is 1,000 times the value of K?

1. 4
2. 30
3. 40
4. 100
5. 10,000