

$f(x) = 6x^2 - 4x^5 + 3x^3 + x + 1$. Which of the following statements is true for the polynomial function f ?

- ☐ a. None
- ☐ b. The degree is 5 and leading coefficient is -4
- ☐ c. The degree is 2 and leading coefficient is 6
- ☐ d. The degree is 5 and leading coefficient is 6
- ☐ e. The degree is 5 and leading coefficient is 4

Question 2

$f(x) = \begin{cases} 2x^2 + 3x + 1, & \text{if } x < 2 \\ 3x^2 - 2x - 5, & \text{if } x \geq 2 \end{cases}$. Find the value of $f(1) + f(2)$.

- ☐ a. 9
- ☐ b. 7
- ☐ c. None
- ☐ d. 6
- ☐ e. 8

Question 3

$f(x) = \begin{cases} ax + 3, & \text{if } x < 2 \\ bx^2 + 2, & \text{if } x \leq 2 \end{cases}$. It is given that $f(1) = 5$ and $f(2) = 6$. Find the value of $f(a+b)$.

- ☐ a. 9
- ☐ b. 8
- ☐ c. None
- ☐ d. 10
- ☐ e. 11

Question 4

Not yet answered
Marked out of 5.00

Flag question

$f(x) = \begin{cases} 2x^2 - 2x - 2, & \text{if } x < 2 \\ 3x^2 + x + 5, & \text{if } x \geq 2 \end{cases}$. Find the value of $f(1) + f(2)$

- ☐ a. 17
☐ b. 14
☐ c. None
☐ d. 16
☐ e. 15

Question 5

Not yet answered
Marked out of 5.00

Flag question

If $f(x) = -2x^3 + 4x^2 + 5x + 1$ and $g(x) = -2x^2 + 3x^4 + x - 1$, then the degree of the $f(x) + g(x)$ is:

- ☐ a. 2
☐ b. 7
☐ c. 3
☐ d. 4
☐ e. None

Question 6

Not yet answered
Marked out of 5.00

Flag question

$f(x) = (a+1)x^3 - 2x^2 + 3x + 5$. If f is a polynomial function of degree 2, then the value of 'a' is:

- ☐ a. -1
☐ b. None
☐ c. 1
☐ d. 2
☐ e. 0

Question 7

$g(x) = 2x + 1$ and $f(x) = x^2 - x - 1$. Find the value of $(f \circ g)(2)$

Question 7

Not yet answered

Marked out of 5.00

Flag question

$g(x) = 2x + 1$ and $f(x) = x^2 - x - 1$. Find the value of $(fog)(2)$.

- ☐ a. 17
- ☐ b. 18
- ☐ c. 20
- ☐ d. 19
- ☐ e. None

Question 8

Not yet answered

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The leading coefficient of a polynomial is the greatest coefficient.

Select one:

- ☐ True
- ☐ False

Question 9

Not yet answered

Marked out of 5.00

Flag question

Let $f(x) = 2x^2 - 3x + 1$, find the value of $f(3)$.

- ☐ a. 10
- ☐ b. None
- ☐ c. 6
- ☐ d. 8
- ☐ e. 7

Question 10

Not yet

What is the domain of $f(x) = \frac{x^2 + x + 1}{x^2 - 3x - 4}$?

Question 19

Not yet
answered

Marked out of
5.00

Flag
question

The coefficients of a polynomial function must be either zero or a positive integer.

Select one:

☐ True

☐ False

Question 20

Not yet
answered

Marked out of
5.00

Flag
question

The domain of $f(x) = \frac{\sqrt{2x+4}}{x^2-x-2}$ is:

- ☐ a. All real numbers greater than to -2 except -1 and 2
- ☐ b. All real numbers except -1 and 2
- ☐ c. All real numbers greater than or equal to -2 except -1 and 2
- ☐ d. All real numbers greater than or equal to -4 except -1 and 2
- ☐ e. None

Finish attempt...

◀ Class MAT175 (M2)-Dr. Alper
Oct 8:00 am to 9:15 am

Jump to...

Question 16

Not yet answered

Marked out of 5.00

Flag question

A ball has been dropped from the top of a building. Its height (in feet) after t seconds is given by the function $h(t) = -16t^2 + 256$. How far will the ball travel during the third second?

- ☐ a. 144
- ☐ b. 112
- ☐ c. 132
- ☐ d. 148
- ☐ e. None

Question 17

Not yet answered

Marked out of 5.00

Flag question

$f(x) = \sqrt{2x-6}$ and $g(x) = \sqrt{-3x+12}$. The intersection of domains of f and g is:

- ☐ a. $[-3,4]$
- ☐ b. None
- ☐ c. $[3,4]$
- ☐ d. $[1,4]$
- ☐ e. $[-4,-3]$

Question 18

Not yet answered

Marked out of 5.00

Flag question

To study the rate at which animals learn, Becky performed an experiment in which a rat was sent repeatedly through a laboratory maze. Suppose that the time required for the rat to traverse the maze on the n^{th} trial was approximately $T(n) = 4 + \frac{12}{n}$ minutes. How long did it take the rat to traverse the maze on the 3rd trial?

- ☐ a. 6
- ☐ b. 14
- ☐ c. None
- ☐ d. 8
- ☐ e. 12

Question 13

Not yet
answered
Marked out of
5.00
Flag
question

A ball has been dropped from the top of a building. Its height (in feet) after t seconds is given by the function $h(t) = -16t^2 + 256$. When will the ball hit the ground?

- ☐ a. After 10 seconds
- ☐ b. After 5 seconds
- ☐ c. After 4 seconds
- ☐ d. None
- ☐ e. After 6 seconds

Question 14

Not yet
answered
Marked out of
5.00
Flag
question

A ball has been dropped from the top of a building. Its height (in feet) after t seconds is given by the function $h(t) = -16t^2 + 256$. What is the height of the ball after 3 seconds?

- ☐ a. 116
- ☐ b. 110
- ☐ c. None
- ☐ d. 114
- ☐ e. 112

Question 15

Not yet
answered
Marked out of
5.00
Flag
question

Let f and g are two polynomial functions of different degrees. If degree of f is greater than degree of g , then degree of $f + g$ is greater than the degree of $f - g$.

Select one:

- ☐ True
- ☐ False

Question 16

Not yet
answered
Marked out of
5.00

A ball has been dropped from the top of a building. Its height (in feet) after t seconds is given by the function $h(t) = -16t^2 + 256$. How far will the ball travel during the third second?

- ☐ a. 144
- ☐ b. 112

Question 10

Not yet answered

Marked out of 5.00

Flag question

What is the domain of $f(x) = \frac{x^2 + x + 1}{x^2 - 2x - 3}$?

- ☐ a. All real numbers except 1 and -3
- ☐ b. All real numbers except 1 and 3
- ☐ c. None
- ☐ d. All real numbers except -1 and -3
- ☐ e. All real numbers except -1 and 3

Question 11

Not yet answered

Marked out of 5.00

Flag question

What is the domain of $f(x) = \sqrt{-2x+8}$?

- ☐ a. $x \geq -4$
- ☐ b. $x \leq -4$
- ☐ c. None
- ☐ d. $x \geq 4$
- ☐ e. $x \leq 4$

Question 12

Not yet answered

Marked out of 5.00

Flag question

The domain of $f(x) = \frac{2x}{x^3 - x^2 - 2x}$ is:

- ☐ a. None
- ☐ b. All real numbers except 0, 1, and 2
- ☐ c. All real numbers except -1 and 2
- ☐ d. All real numbers except 0, 2, and -1
- ☐ e. All real numbers

Question 13

Not yet answered

A ball has been dropped from the top of a building. Its height (in feet) after t seconds is given by the function $h(t) = -16t^2$.

- ☐ a. After 10 seconds