MATH 1311

Test 2 Review

Solve the equation:

$5(x + 3) - 2x = -x - (x + 3)$

Solve the equation for x:

$$5xy + 8x - 6y = 10x + 8x - 7xy + 2$$

Solve the equation for c:

$ab + 3ac - 4c = c + 5$

The number of people in a certain city is given by the equation, where x is measured in years and P(x) is measured in millions of people.

$$P(x) = \frac{14}{1.2 + 0.2^{x-1}}$$

Find the initial value of the equation, and interpret its meaning.

The number of people in a certain city is given by the equation, where x is measured in years and P(x) is measured in millions of people.

$$P(x) = \frac{14}{1.2 + 0.2^{x-1}}$$

What is the population after 2 years?

The number of people in a certain city is given by the equation, where x is measured in years and P(x) is measured in millions of people.

$$P(x) = \frac{14}{1.2 + 0.2^{x-1}}$$

When will the population reach 9 million people?

The number of people in a certain city is given by the equation, where x is measured in years and P(x) is measured in millions of people.

$$P(x) = \frac{14}{1.2 + 0.2^{x-1}}$$

Will the population ever level out? If so, to what value?

A stone is thrown upwards from the top of a building at an initial speed of 35 mph. Its height is given by the formula:
$h(t) = -16t^2 + 35t + 120$
where t is measured in seconds after being thrown and h(t) is measured in feet.

What is the height of the building?

A stone is thrown upwards from the top of a building at an initial speed of 35 mph. Its height is given by the formula:

$h(t) = -16t^2 + 35t + 120$

where t is measured in seconds after being thrown and h(t) is measured in feet.

When will the stone reach the ground?

A stone is thrown upwards from the top of a building at an initial speed of 35 mph. Its height is given by the formula:

$h(t) = -16t^2 + 35t + 120$

where t is measured in seconds after being thrown and h(t) is measured in feet.

What is the maximum height of the stone? When will this happen?

The following table relates variables x and y:

x	-3	-2	-1	0	1	2
y	12	10	8	6	4	2

Is this a linear relationship?

The following table relates variables x and y:

x	-3	-2	-1	0	1	2
y	12	10	8	6	4	2

What is the slope of the line?

The following table relates variables x and y:

x	-3	-2	-1	0	1	2
y	12	10	8	6	4	2

What is the y-intercept of the line?

The following table relates variables x and y:

x	-3	-2	-1	0	1	2
y	12	10	8	6	4	2

What is the equation of the line?

The following table relates variables x and y:

x	-3	-2	-1	0	1	2
y	12	10	8	6	4	2

Use this equation to estimate the y-value that corresponds to an x-value of 5.

Based on the near-linear data, determine the equation of the linear model that most closely matches the data:

x	0	1	2	3	4	5
y	10	14	17	23	26	31

Based on the near-linear data, determine the equation of the linear model that most closely matches the data:

x	0	1	2	3	4	5
y	10	14	17	23	26	31

How accurate (as a percent) is this linear model?

Based on the near-linear data, determine the equation of the linear model that most closely matches the data:

x	0	1	2	3	4	5
y	10	14	17	23	26	31

Use the linear model to find the value of p in the following coordinate point: (7, p)

The pitch of a roof has a slope of 1.5. If the peak of the roof is 12 feet higher than the walls, and located in the exact center of the house, how wide is the house?

A parking lot charges $7 for a car and $10 for a bus to park for the day. The lot sold 30 parking tickets for the day and earned $234.

Write an equation for the number of vehicles parked.

A parking lot charges $7 for a car and $10 for a bus to park for the day. The lot sold 30 parking tickets for the day and earned $234.

Solve this equation for c.

A parking lot charges $7 for a car and $10 for a bus to park for the day. The lot sold 30 parking tickets for the day and earned $234.

Write an equation for the revenue of parking those vehicles.

A parking lot charges $7 for a car and $10 for a bus to park for the day. The lot sold 30 parking tickets for the day and earned $234.

Solve this equation for c.

A parking lot charges $7 for a car and $10 for a bus to park for the day. The lot sold 30 parking tickets for the day and earned $234.

Solve the system (using a graphing calculator).

Using the crossing method, solve the following equation:

$$\sqrt{x^2 - 5x + 12} = 3^x$$

Provide a sketch of both graphs (label your axis with a scale and label your intersection point).

A linear equation has the values of g(-3) = 5 and g(2) = 15. Determine the equation of the linear function, and use it to find g(10).

Popper 17

Questions 1 – 5, bubble in Answers Choice A.