

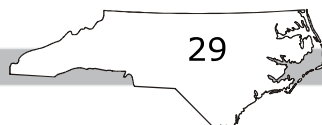
Question 41 is a gridded response item that requires you to write your answer in the boxes provided on your answer sheet. Write only one number or symbol in each box and fill in the circle in each column that matches what you have printed. Fill in only one circle in each column.

41 A function is shown below.

$$g(x) = 19.60 + 1.74x$$

What is the value of $g(30)$?

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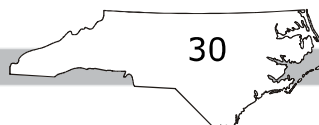


42 The table below shows the weights of 8 different bears at a zoo.

Type of Bear	Weight (pounds)
Asiatic Black Bear	225
Black Bear	300
Brown Bear	550
Panda Bear	200
Polar Bear	1,000
Sloth Bear	300
Spectacled Bear	280
Sun Bear	100

If the weight of the polar bear is removed, which statement is true?

- A The mean decreases more than the median because the polar bear is a high outlier.
- B The mean decreases less than the median because the polar bear is a high outlier.
- C The mean decreases more than the median because the high value balances the low value.
- D The mean decreases less than the median because the high value balances the low value.





43 The vertices of a rectangle are located at $(1, 2)$, $(5, 0)$, $(2, -6)$, and $(-2, -4)$. What is the area of the rectangle?

- A 20 square units
- B 30 square units
- C 35 square units
- D 45 square units

44 This is a paper/pencil copy of an online technology enhanced item.

Select (click) each situation that can be modeled with a linear function.

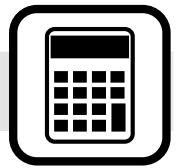
A taxi charges an initial fee of \$2.00, and \$1.50 for each additional mile.

The population in a town decreases by 15% each year.

An airplane flying at an altitude of 33,000 feet descends at a rate 20 feet per minute.

A pizza restaurant charges \$5.50 per pizza, and \$0.50 for each additional topping.

A cell doubles in size every 2 hours.

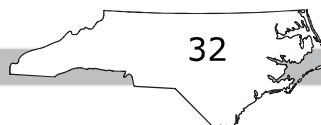


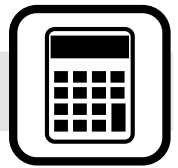
- 45 What is the distance between the y -intercept of the function $f(x) = 2x^2 - 6x + 3$ and the y -intercept of the linear function g represented by the table below?

x	$g(x)$
-5	15
-2	3
2	-13
5	-25

- A 2 units
B 3 units
C 8 units
D 9 units

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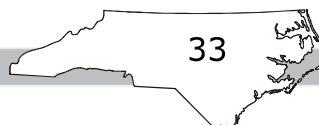


- 46 The table below displays the walking heart rate and running heart rate of eight girls in beats per minute (bpm).

Walking Heart Rate	Running Heart Rate
66	128
72	136
74	134
78	138
80	142
84	146
86	148
88	152

Using the linear best-fit model for the data, what is the predicted running heart rate of a girl whose walking heart rate is 100 bpm?

- A 161 bpm
- B 163 bpm
- C 165 bpm
- D 167 bpm





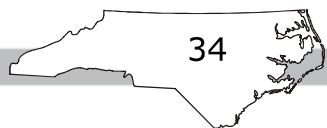
47 This is a paper/pencil copy of an online technology enhanced item.

Place (click and drag) the data sets below into the appropriate rows in the table.

Symmetric about the Mean	
Skewed Left	
Skewed Right	

15, 25, 35, 45, 55, 115	15, 75, 85, 95, 105, 115
15, 25, 35, 45, 55, 65	

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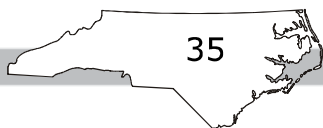
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- 48 A rectangle has a perimeter of 64.
- Let x equal the width of the rectangle.
 - Let y equal the area of the rectangle.

Which equation can be used to find the area of the rectangle?

- A $y = x^2 - 64x$
- B $y = -x^2 + 64x$
- C $y = x^2 - 32x$
- D $y = -x^2 + 32x$
- 49 What is the midpoint of the longest side of the triangle with vertices $(1, 4)$, $(3, 4)$, and $(3, 6)$?
- A $(1, 1)$
- B $(2, 4)$
- C $(2, 5)$
- D $(3, 5)$





- 50 The table below shows the hours, x , spent working on a new road and the distance, y , of finished road.

Time (hours)	Distance (miles)
50	1.5
200	6
350	10.5
400	12
650	19.5

What is the slope of the line that fits these data?

- A $\frac{3}{400}$
- B $\frac{3}{100}$
- C $\frac{3}{25}$
- D 3

This is the end of the NC Math 1 released items.

