Algebra Cumulative Exam Review   Name _____

Multiple Choice – The Multiple Choice Portion will Take Place November 14, 2011

1. If $a = 3$ and $b = -1$, what is the value of $ab - b^2$?

   (1) -2   (2) 2   (3) -4   (4) 4

2. A box contains 6 dimes, 8 nickels, 12 pennies, and 3 quarters. What is the probability that a coin drawn at random is *not* a dime?

   (1) $\dfrac{6}{29}$ (2) $\dfrac{8}{29}$ (3) $\dfrac{12}{29}$ (4) $\dfrac{23}{29}$

3. Which sentence illustrates the distributive property?

   (1) $xy = yx$ (3) $x(y + z) = xy + xz$

   (2) $x(yz) = (xy)z$ (4) $1(xy) = xy$

4. Which statement is true for the following group of data?

   11, 13, 18, 19, 19
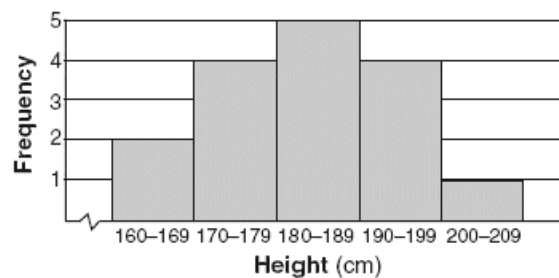
   (1) mean > median   (3) mode = median

   (2) mean > mode   (4) median < mode

5. The accompanying histogram shows the heights of the students in Kyra's health class.

What is the total number of students in the class?

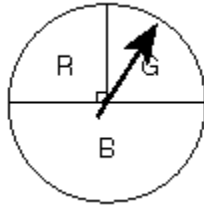   (1) 5   (2) 15   (3) 16   (4) 209

6. Ryan estimates the measurement of the volume of a popcorn container to be 282 cubic inches. The actual volume of the popcorn container is 289 cubic inches. What is the relative error of Ryan's measurement to the *nearest thousandth*?

    (1) 0.024   (2) 0.025   (3) 0.096   (4) 1.025

7. At a school fair, the spinner represented in the accompanying diagram is spun twice.

What is the probability that it will land in section G the first time and then in section B the second time?

    (1) $\dfrac{1}{2}$ (2) $\dfrac{1}{4}$ (3) $\dfrac{1}{8}$ (4) $\dfrac{1}{16}$

8. John's father weighs 20 pounds more than twice what John weighs. If John's weight is represented by y, then his father's weight may be represented by

    (1) $2y$ (2) $2y - 20$ (3) $2y + 20$ (4) $\dfrac{1}{2}y + 20$

Short Answer – The Short Answer Portion will Take Place November 15, 2011

9. Solve for x: $5(x - 2) = 2(10 + x)$

10. Adam has a bag containing four yellow balls and one red ball. He will choose one ball, and then choose a second ball.

Find the probability that Adam will choose a yellow ball first and a red ball second with replacement.

Find the probability that Adam will choose a red ball first and a yellow ball second without replacement

Find the probability that Adam will choose a yellow ball first and a yellow ball second without replacement.

11. The data set 5, 6, 7, 8, 9, 9, 9, 10, 12, 14, 17, 17, 18, 19, 19 represents the number of hours spent on the Internet in a week by students in a mathematics class. Construct a box-and-whisker plot to represent the data?

12. Roberta needs ribbon for a craft project. The ribbon sells for $3.75 per yard. Find the cost, in dollars, for 48 inches of the ribbon. **(1 yard = 3 feet)**

13. Robin spent $17 at an amusement park for admission and rides. If she paid $5 for admission, and rides cost $3 each, what is the total number of rides that she went on?

14. Jaime measured the dimensions of a rectangle to be 12.2 inches by 11.8 inches. The actual dimensions are 12.3 inches by 11.9 inches.

    Jaime's Area:

    Actual Area:

    What is the relative error, to the *nearest hundredth*, in calculating the area of the rectangle?

15. Solve for *x*: $\dfrac{x}{7} - 5 = -4$

16. A professional football player can run the 40-yard dash in 4.2 seconds. How long would it take the player to run 100 yards, to the nearest tenth of a second?
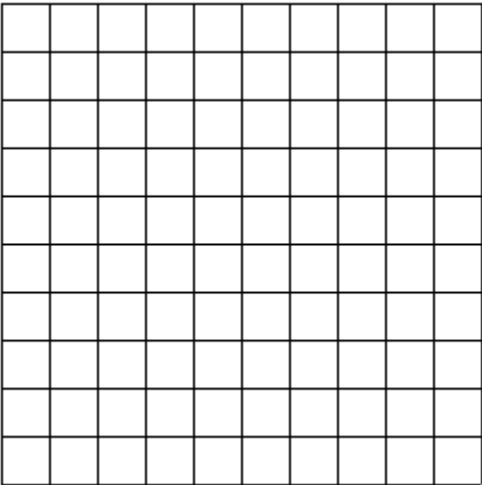
17. A restaurant sells kids' meals consisting of one main course, one side dish, and one drink, as shown in the table below.

Kids' Meal Choices

Main Course	Side Dish	Drink
hamburger	French fries	milk
chicken nuggets	applesauce	juice
turkey sandwich		soda

Use a tree diagram or list the sample space showing all possible kids' meals.

18. The table below shows the number of prom tickets sold over a ten-day period.

Prom Ticket Sales

Day (x)	1	2	5	7	10
Number of Prom Tickets Sold (y)	30	35	55	60	70

The scatter plot of the data in the table has which type of correlation. _____

19. The table shows the cumulative frequency of the ages of a group of people standing in a cafeteria line.

Interval	Cumulative Frequency
10-19	2
10-29	17
10-39	27
10-49	32
10-59	32
10-69	35

Construct a **_cumulative frequency histogram_** for the following data.

How many people were surveyed? _____

Fifteen people fall under which 10-year age interval? _____