

Name _____

1 The equations $5x + 2y = 48$ and $3x + 2y = 32$ represent the money collected from school concert tickets sales during two class periods. If x represents the cost for each adult ticket and y represents the cost for each student ticket, what is the cost for each adult ticket?

2 An animal shelter spends \$2.35 per day to care for each cat and \$5.50 per day to care for each dog. Pat noticed that the shelter spent \$89.50 caring for cats and dogs on Wednesday. Write an equation to represent the possible number of cats and dogs that could have been at the shelter on Wednesday.

Pat said that there might have been 8 cats and 14 dogs at the shelter on Wednesday. Are Pat's numbers possible? Use your equation to justify your answer.

Pat was later told that there were 22 animals (cats and dogs) at the shelter on Wednesday. How many cats were there at the shelter on Wednesday?

3 Robin collected data on the number of hours she watched television on Sunday through Thursday nights for a period of 3 weeks. The data are shown in the table below.

	Sun	Mon	Tues	Wed	Thurs
Week 1	4	3	3.5	2	2
Week 2	4.5	5	2.5	3	1.5
Week 3	4	3	1	1.5	2.5

Using an appropriate scale on the number line below, construct a box plot for the 15 values.



4 Christopher looked at his quiz scores shown below for the first and second semester of his Algebra class.

Semester 1: 78, 91, 88, 83, 94

Semester 2: 91, 96, 80, 77, 88, 85, 92

Which statement about Christopher's performance is correct?

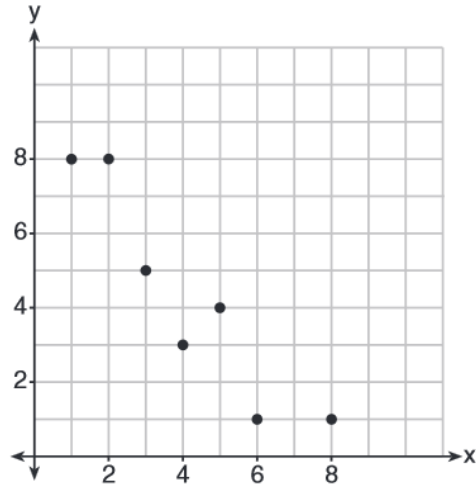
- (1) The interquartile range for semester 1 is greater than the interquartile range for semester 2.
- (2) The median score for semester 1 is greater than the median score for semester 2.
- (3) The mean score for semester 2 is greater than the mean score for semester 1.
- (4) The third quartile for semester 2 is greater than the third quartile for semester 1.

monday

tuesday

Name _____

5 What is the correlation coefficient of the linear fit of the data shown below, to the nearest hundredth?



- (1) 1.00
- (2) 0.93
- (3) -0.93
- (4) -1.00

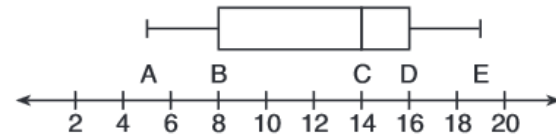
6 Which graph represents the solution set of $2x - 5 < 3$?

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

7 Which relation is *not* a function?

- (1) $\{(2,4), (1,2), (0,0), (-1,2), (-2,4)\}$
- (2) $\{(2,4), (1,1), (0,0), (-1,1), (-2,4)\}$
- (3) $\{(2,2), (1,1), (0,0), (-1,1), (-2,2)\}$
- (4) $\{(2,2), (1,1), (0,0), (1,-1), (2,-2)\}$

8 The box-and-whisker plot shown below represents the number of magazine subscriptions sold by members of a club.



Which statistical measures do points *B*, *D*, and *E* represent, respectively?

- (1) minimum, median, maximum
- (2) first quartile, median, third quartile
- (3) first quartile, third quartile, maximum
- (4) median, third quartile, maximum

9 What is the solution of $4x - 30 \geq -3x + 12$?

- (1) $x \geq 6$
- (2) $x \leq 6$
- (3) $x \geq -6$
- (4) $x \leq -6$

10 A positive correlation always exists on a scatter plot when

- (1) *y* remains unchanged as *x* increases
- (2) *y* changes randomly as *x* increases
- (3) *y* decreases as *x* increases
- (4) *y* increases as *x* increases