

Algebra I TEST 10 Review
Data/Variations

Name _____

Date _____

The SAT math scores for 7 high school students are listed: 539, 541, 576, 505, 548, 565, 558

- 1 Find the mean of the data
- 2 Find the median of the data.
- 3 Find the mode of the data.
- 4 Find the range of the data.

Twenty families were surveyed about their total number of magazine subscriptions. The results are as follows:

3, 1, 0, 0, 2, 3, 1, 4, 5, 1, 0, 2, 2, 0, 4, 3, 2, 1, 2, 3

- 5 Find the mean of the data.
- 6 Find the median of the data.
- 7 Find the mode of the data.
- 8 Find the range of the data.

9

Stem	Leaf
1	1 2
3	0 4 6 7
4	1 1 2
6	1 6

Key 3 | 2 = 32

- a.) Mean?
- b.) Median?
- c.) Mode?
- d.) Range?

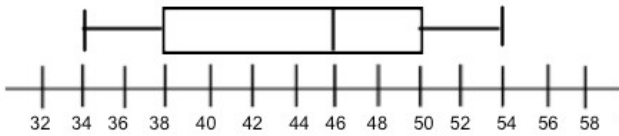
10 Given the following stem & Leaf plot

Stem	Leaf
3	0 1 3 5
4	1 1 4
5	2 3 4 7 9
7	4 6

Key: 6 | 3 = 63

- a.) Mean?
- b.) Median?
- c.) Mode?
- d.) Range?

11 Given the box and whisker plot below:



- a.) What is the median?
- b.) What is the range?
- c.) What is Q1?
- d.) What is Q3?

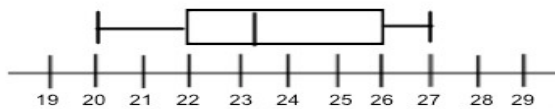
12 Which box-and-whisker plot below best represents the data below?

20, 22, 23, 22, 24, 25, 22, 22, 25, 27

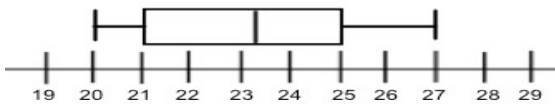
A



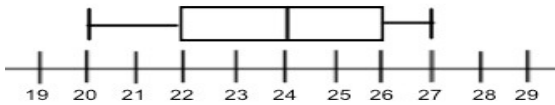
B



C



D



13 If y varies directly as x , and $y = 54$ when $x = 27$. Find y when $x = 44$.

14 If y varies directly as x , and $y = 72$ when $x = 9$. Find y when $x = 11$.

15 The amount of money earned on a job varies directly to the number of hours worked. If \$60.00 is earned for working 6 hours, how much is earned for 40 hours of work?

16 The speed of an object falling from rest is directly proportional to the time it has fallen. After an object has fallen 5 seconds its speed is 49 m/sec. What is its speed after it has fallen 1.5 seconds?

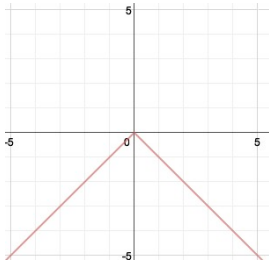
17 Use the data below to determine which equation represents the equation for a direct variation.

x	2	3	4	5
y	8	12	16	20

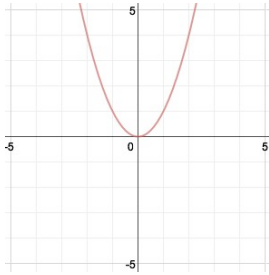
- A $y = \frac{4}{x}$
- B $y = 4x$
- C $y = -\frac{3}{x}$
- D $y = -3x$

18 Which graph represents direct variation?

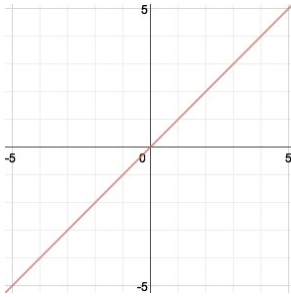
A



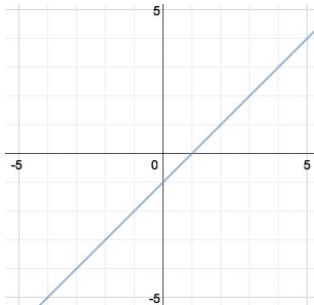
B



C



D



19 Identify each table of values as direct variation, inverse variation, or neither.

A

x	-2	-1	1	2
y	13	9	1	-3

B

x	1	2	4	8
y	80	40	20	10

C

x	-2	-1	2	4
y	-17	-9	3	11

D

x	-3	9	-27	3
y	1	-3	9	-1

20 The pitch of a musical note varies inversely as its wavelength. If the tone has a pitch of 440 vibrations per second and a wavelength of 2.4 feet, find the pitch of a tone that has a wavelength of 1.6 feet.

21 What is the solution to the following equation?

$$5x - 2 = 3x + 4$$

22 Which is an equation for the line that passes through the points (-2, 2) and (4, 5)?

A $y = \frac{1}{2}x + 3$

B $y = 2x - 3$

C $y = -2x - 3$

D $y = -\frac{1}{2}x + 3$

23 What is the slope of the line through (-3, 4) and (5, 4)?

- A -8
- B 8
- C 0
- D Undefined

24 What is a solution to the following equation?

$$x^2 - x - 12 = 0$$

- A $x = -4$
- B $x = -1$
- C $x = 4$
- D $x = 12$

25 When simplified, $(2x^3y^2)^3$ equals –

26 What are factors of $3x^2 - 7x + 2$?

- A $(3x + 1)(x - 2)$
- B $(3x + 1)(x + 2)$
- C $(3x - 1)(x - 2)$
- D $(3x - 1)(x + 2)$

27 What is the factored form of $m^2 - 4n^2$?

- A $(m + 2n)(m - 2n)$
- B $(m + 2n)^2$
- C $(m - 2n)^2$
- D $(m - n)(m + 4n)$

28 What is the range of the function $f(x) = \frac{1}{2}x - 1$ when the domain is $\{-2, 4, 6\}$?