

This grade boost packet is due January 5th 2010. The packet must be fully completed to be graded. .

Good Luck and Happy Holidays!

- If the expression $3 - 4^2 + \frac{6}{2}$ is evaluated, what would be done *last*?
 (1) subtracting (3) adding
 (2) squaring (4) dividing
- What is the first step in simplifying the expression $(2 - 3 \times 4 + 5)^2$?
 (1) square 5 (3) subtract 3 from 2
 (2) add 4 and 5 (4) multiply 3 by 4
- The expression $15 - 3[2 + 6(-3)]$ simplifies to
 (1) -45 (3) 63
 (2) -33 (4) 192
- Sterling silver is made of an alloy of silver and copper in the ratio of 37:3. If the mass of a sterling silver ingot is 600 grams, how much silver does it contain?
 (1) 48.65 g (3) 450 g
 (2) 200 g (4) 555 g
- There are 357 seniors in Harris High School. The ratio of boys to girls is 7:10. How many boys are in the senior class?
 (1) 210 (3) 117
 (2) 147 (4) 107

6. Which table does *not* show an example of direct variation?

1)

x	y
1	4
2	8
3	12
4	16

2)

x	y
2	24
4	12
6	8
8	6

3)

x	y
1	$\frac{1}{2}$
2	1
3	$\frac{3}{2}$
4	2

4)

x	y
-4	-20
-3	-15
-2	-10
-1	-5

- Which equation represents the direct variation relationship of the equation $\frac{x}{y} = \frac{1}{2}$?
 (1) $y = x + \frac{1}{2}$ (3) $y = 3x$
 (2) $y = 2x$ (4) $x = 2y$
- If x varies directly as y , and $x = 8$ when $y = 24$, what is the value of x when $y = 6$?
 (1) 1 (3) 3
 (2) 2 (4) 4
- The Edison Lightbulb Company tests 5% of their daily production of lightbulbs. If 500 bulbs were tested on Tuesday, what was the total number of bulbs produced that day?
 (1) 25 (3) 10,000
 (2) 1,000 (4) 100,000

Stem	Leaf
10	9
11	
12	3 8
13	2 4 4 6 8
14	1 3 5 5 9
15	2 3 7 7 9
16	1 3 7 8 8 8 9
17	3 8

Key: 16 | 1 = 161

What is the mode of the weights?

- (1) 145 (3) 152
(2) 150 (4) 168

16. The accompanying stem-and-leaf plot represents Ben's test scores this year.

6	5 8
7	2 3 3 3 3 9
8	1 3 3 6 7
9	6 9 9

Key: 7 | 2 = 72

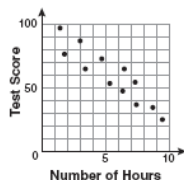
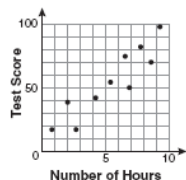
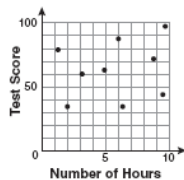
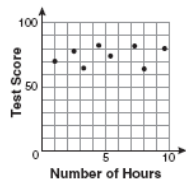
What is the median score for this set of data?

- (1) 73 (3) 80
(2) 79 (4) 81

17. If $x = 4$ and $y = -2$, the value of $\frac{1}{2}xy^2$ is

- (1) 32 (3) -4
(2) 8 (4) -8

18. There is a negative correlation between the number of hours a student watches television and his or her social studies test score. Which scatter plot below displays this correlation?



19. What is the value of x in the equation $5 - 3x = -7$?

- (1) $-\frac{2}{3}$ (3) -4
(2) $\frac{2}{3}$ (4) 4

20. Rosario and Enrique are in the same mathematics class. On the first five tests, Rosario received scores of 78, 77, 64, 86, and 70. Enrique received scores of 90, 61, 79, 73, and 87. How much higher was Enrique's average than Rosario's average?

- (1) 15 points (3) 3 points
(2) 2 points (4) 4 points

21. From January 3 to January 7, Buffalo recorded the following daily high temperatures: 5° , 7° , 6° , 5° , and 7° . Which statement about the temperatures is true?

- (1) mean = median (3) median = mode
 (2) mean = mode (4) mean < median

22. The exact average of a set of six test scores is 92. Five of these scores are 90, 98, 96, 94, and 85. What is the other test score?

- (1) 92 (3) 89
 (2) 91 (4) 86

23. Brett was given the problem: "Evaluate $2x^2 + 5$ when $x = 3$." Brett wrote that the answer was 41. Was Brett correct? Explain your answer.

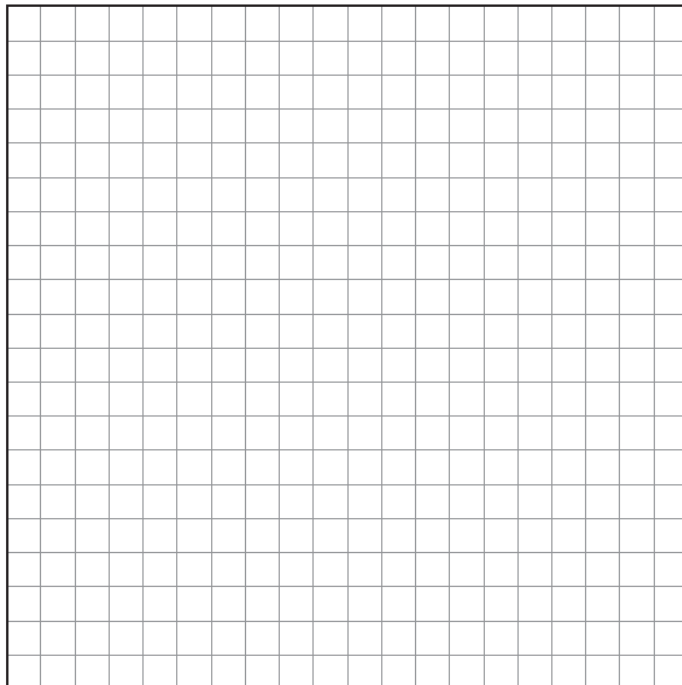
24. The following set of data represents the scores on a mathematics quiz:

58, 79, 81, 99, 68, 92, 76, 84, 53, 57,
 81, 91, 77, 50, 65, 57, 51, 72, 84, 89

Complete the frequency table below and, on the accompanying grid, draw and label a frequency histogram of these scores.

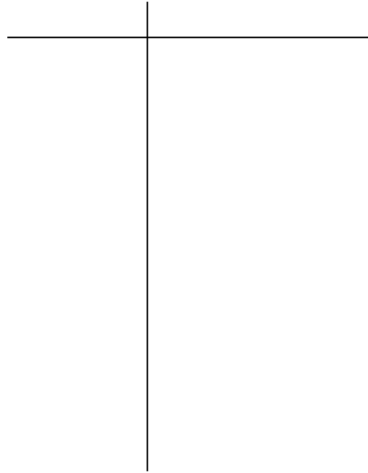
Mathematics Quiz Scores

Interval	Tally	Frequency
50–59		
60–69		
70–79		
80–89		
90–99		



25. Construct a stem-and-leaf plot listing the scores below in order from lowest to highest.

15, 25, 28, 32, 39, 40, 43, 26, 50, 75, 65, 19, 55, 72, 50



26. A 14-gram serving of mayonnaise contains 11 grams of fat. What percent of the mayonnaise, to the *nearest tenth of a percent*, is fat?