

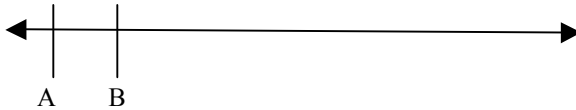
Fifth Grade
Math Mastery Assessment

1. _____ Which number best represents the point on the number line?



- a) $1/9$
- b) $9/10$
- c) $3/8$
- d) $2/5$

2. a. If A is located at 0 and B is located at $2/5$, where would 1 be located? Put a C at that point.



b. Explain your reasoning

3. _____ What is the best *estimate* for the solution of 4.7×42 ?

- a) 200
- b) 160
- c) 414
- d) 250

4. _____ If pencil b is 6 inches long, approximately how long is pencil a?



- a. 10 inches
- b. 5 inches
- c. 7 inches
- d. 9 inches

5. _____ Which of the following is NOT a prime number?

- a) 39
- b) 89
- c) 11
- d) 13

6. Jose created a game using two number cubes of different colors. The green cube had ODD multiples of 3 and the red cube had EVEN multiples of 3.

a) What was the color of the cube that had the number 6?

b) List SIX numbers that could be on the OTHER cube.

c) Could Jose design the same game using multiples of 4? Explain your answer.

7. Walking Record (in miles)

	<u>Emily</u>	<u>Carla</u>	<u>Sami</u>	<u>Donald</u>	<u>Kyle</u>
<u>Sat.</u>	0.62	1.12	0.08	1.23	0.88
<u>Sun.</u>	1.34	0.71	1.25	0.97	1.06

a) Which student walked the farthest in two days?

b) What is the difference between the longest total distance walked by a student and the least total distance walked by a different student?

8. _____ In a discus-throwing competition, the winning throw was 61.60 m. The second-place throw was 59.72 m. How much longer was the winning throw than the second-place throw?

- a) 1.18 m c) 1.98 m
b) 1.88 m d) 2.18 m

9. Sketch a shape with **one and only one** line of symmetry.

10. Calculate the area and perimeter of a rectangle with the given dimensions.
($L = 8\text{ft.}$, $W = 3\text{ft.}$)
- area = _____ (Show your work)
 - perimeter = _____ (Show your work)
11. Using a protractor or angle ruler, draw a 35 degree angle.
12. There are 5,280 feet in one mile.
- How many inches are there in 1 mile? _____ (Show your work.)
 - How many feet are there in 7 miles? _____ (Show your work.)
13. A rectangle has a length of $2\frac{1}{3}$ feet and a width of $4\frac{1}{2}$ feet.
- Give the length and width in inches.
Length = _____ Width = _____ (Show your work.)
 - What is the area in *square inches*? _____ (Show your work.)
14. Draw a rectangular prism. Use dotted lines to indicate the edges that would be hidden if a solid figure.
15. _____ If it is 3:15 a.m. in Los Angeles, what time is it in Cincinnati?
- 3:15 p.m.
 - 12:15 a.m.
 - 6:15 a.m.
 - 5:15 a.m.

16. Some students started a storytelling club at the beginning of the year, and the club has been growing ever since. 7 students came to tell stories at the first meeting, and 4 came to listen. 10 students came to tell stories at the second meeting, and 6 came to listen. 13 students came to tell stories at the third meeting, and 8 came to listen, 16 students came to tell stories at the fourth meeting, and 10 came to listen.

a. Organize this information into a chart.

b. What is the total number of students that you think will come to the fifth meeting? Explain your answer.

17. _____ These are Tom's grades for the 2nd grading period: 82, 95, 76, 90, 89.

This is the grading scale at Tom's school:

- A 90-100
- B 80-89
- C 70-79
- D 60-69
- F below 60

a. What is the average of Tom's grades? _____ (Show your work.)

b. What better grade will Tom receive on his report card this grading period? _____ Explain.

18. a. List all the outcomes of flipping 3 coins. For example, if you get all heads, you would like HHH. List all the other possible outcomes. (Note that HHT is a different outcome than THH.)

b. What is the probability that you would get exactly two heads if you flip three coins? Explain.

19. _____ Bill is at the county fair. There are 3 tubs of water containing ducks. Tub #1 has 10 ducks numbered 1 to 10. Tub #2 has 20 ducks numbered 1 to 20. Tub #3 has 50 ducks numbered 1 to 50. If Bill draws a duck marked with the number 15 from one of the three tubs of water, he will win a prize. Which tub should Bill choose in order to have the best chance of winning a prize? _____ Explain.

20. _____ Kayla made 2 out of 8 foul shots in her first basketball game, 5 out of 10 in her second game, and 8 out of 12 in her third game. If she continues at that pace, which choice best predicts how many she should make in her fourth game?

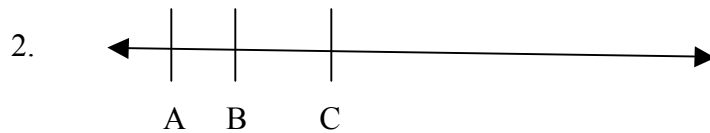
- a) 10 out of 14
- b) 11 out of 15
- c) 11 out of 14
- d) 7 out of 14

Explain.

21. If Bob has three more cars than Jason, tell using numbers and letters how we could represent the number of cars that Bob owns.
22. On a hiking trip, Bob and his two friends hiked 15 miles the first day, 10 miles the second, and 7 miles the third. Support your answers.
- a) If they walked a total of 60 miles over the 5-day trip and did not walk more than 18 miles on any one day, how many miles could they have walked each of the last two days?
- b) How many miles did they average per day?
- c) If they could hike at a top speed of 6 miles per hour on flat ground, but had to slow down when climbing hills, could they have made the trip in a single 10-hour day of sunshine? Support your answer.

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Answer Key

1. b



Point C represents 1. The distance from B to C should be 1.5 times the distance from A to B.

3. a

4. c

5. a

6. a) red


b) 3, 9, 15, 21, 27, 33 (other odd multiples of 3 are possible)

c) No. There are no odd multiples of 4. Every even number only has even multiples.

7. a) Donald, 2.2 miles

b) 0.87 is the difference between 2.2 and Sami at 1.33

8. b

9.  (This is one example. Many others are possible.)

10. Area = 24 square feet; Perimeter = 22 feet

11. Use protractor to check

12. a. 63,360 inches in one mile b. 36,960 feet in seven miles

13. 10.5 square feet

14. 

15. c

16. This should be a scatter plot or a bar graph, but should not be a line graph since it does not show continuous change. The expected number for the fifth meeting should be 31 since the total increases by 5 each time. This would be 19 students to tell students and 12 to listen. (Students might mention that this increase cannot continue forever.)

17. a) The mean of these numbers is 86.4.

b) The student should get a B. This assumes that the teacher uses the mean to grade.

18. a) HHH, HHT, HTH, THH, TTH, THT, HTT, TTT

b) The probability is $\frac{3}{8}$ that you would get exactly two heads.

19. Tub #2 because the probability of $1/10$ is better than $1/20$ or $1/50$.
20. c – because the number of shots made increases by 3 each time while the number of shots taken increases by 2.
21. $B = J + 3$
22. a) 18 one day and 10 the other or 17 one day and 11 the other, or 14 one day and 14 the other, or any other combination of miles that totals 28 miles
b) The average is $60 \text{ miles} \div 5 \text{ days}$ or 12 miles per day.
c) 60 miles would take 10 hours traveling at top speed all day. Since they have to slow down for hills, they could not have made this in one day if there were any hills or if they stopped for any other reason such as eating.