

## MMLA Mathematics Assessment Items

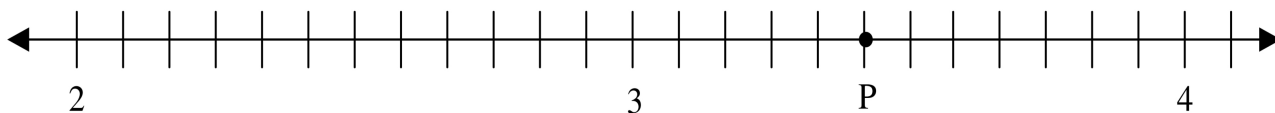
Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Multiple Choice Questions

Select the one best answer for each question.

1. What number on the number line is represented by the point P?



A.  $\frac{5}{2}$

B.  $3\frac{3}{4}$

C.  $3\frac{5}{10}$

D.  $3\frac{5}{12}$

2. Find an equivalent decimal for this fraction. Show your work.

$$\frac{13}{4}$$

A. 3.1

B. 3.25

C. 13.4

D. 13.25

3. Find an equivalent decimal for this fraction.. Show your work.

$$\frac{3}{5}$$

- A. 0.35
- B. 0.6
- C. 1.6
- D. 3.5

4. Find an equivalent decimal for this fraction. Show your work.

$$\frac{11}{4}$$

- A. 2.75
- B. 11.4
- C. 2.4
- D. 4.11

5. Which of the following is an equivalent fraction for 3.5?

A.  $\frac{3}{5}$

B.  $\frac{35}{100}$

C.  $\frac{7}{2}$

D.  $\frac{5}{3}$

6. Find an equivalent decimal for this fraction. Show your work.

$$\frac{7}{8}$$

- A. 0.78
- B. 0.875
- C. 1.14
- D. 7.8
7. Your class photo is 2 inches by 3 inches. Your mother wants to make each side 3 times larger. What are the new dimensions?
- A. 3 inches by 3 inches
- B. 4 inches by 6 inches
- C. 5 inches by 6 inches
- D. 6 inches by 9 inches
8. You have a photograph with dimensions of 8 inches by 12 inches. You would like to reduce the length of each side to  $\frac{1}{4}$  of its original size. Which of the following are the correct new dimensions?
- A. 2 inches by 3 inches
- B. 2 inches by 4 inches
- C. 3 inches by 5 inches
- D. 4 inches by 6 inches

**9.** What is 20% of 225?

A. 11.25

B. 22.5

C. 41.1

D. 45.0

**10.** What is 75% of 600?

A. 150

B. 300

C. 450

D. 500

**11.** What is 12% of 90?

A. 9.8

B. 10.8

C. 27.0

D. 108

**12.** What is 44% of 8,000?

A. 2860

B. 3520

C. 3840

D. 3960

**13.** What is 150% of 16?

A. 24,000

B. 2400

C. 24

D. 8

**14.** What is 25% of 104?

A. 2,600

B. 260

C. 26

D. 2.6

**15.** What is 8% of 20?

A. 1.6

B. 2.5

C. 16

D. 160

**16.** If you biked 120 miles in 30 days, how many miles per day did you bike?

A. 4

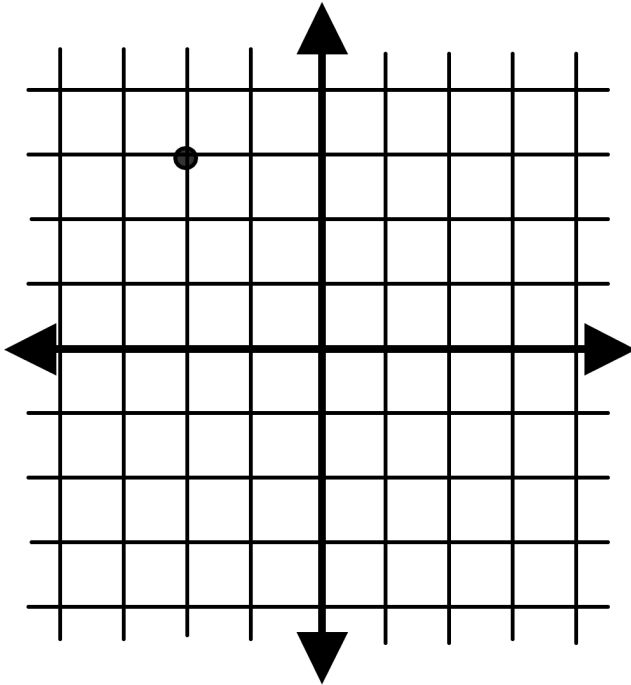
B. 15

C. 30

D. 90

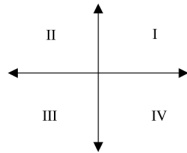
17. If you save \$20 per month, how much will you save in 3 years?
- A. \$60
  - B. \$120
  - C. \$240
  - D. \$720
18. If you eat 300 hot dogs in 60 days, how many hot dogs per day did you eat, on average?
- A. 3
  - B. 5
  - C. 18
  - D. 50
19. If you ride a bike 40 miles in 5 hours, how fast were you biking?
- A.  $\frac{1}{8}$  mile per hour
  - B. 8 miles per hour
  - C. 45 miles per hour
  - D. 200 miles per hour

20. What are the coordinates of the point shown below?



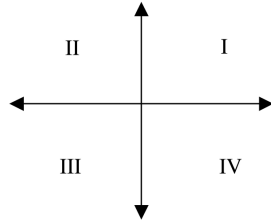
- A. (2, 3)
- B. (2, -3)
- C. (-2, 3)
- D. (-2, -3)

21. Which of these ordered pairs can be found in the first quadrant?



- A. (-2, 3)
- B. (2, 3)
- C. (2, -3)
- D. (-2, -3)

22. Which of the following ordered pairs can be found in the fourth quadrant?



- A. (2, 1)
- B. (-2, -1)
- C. (2, -1)
- D. (-2, 1)
23. Jason had  $c$  cookies in his lunch bag. He ate 3 cookies. Which algebraic expression represents the number of cookies left in the bag?
- A.  $c + 3$
- B.  $c - 3$
- C.  $3 - c$
- D.  $3 \div c$
24. Justin tells Ali he has  $x$  number of cars. Ali has three more than twice this number of model cars. Which of the following expressions represents the number of model cars Ali has?
- A.  $3x$
- B.  $3 + x$
- C.  $2(3 + x)$
- D.  $3 + 2x$

25. Select the equation that correctly expresses the relationship shown in the table between what a person is paid and the number of hours she works.

Pay	Hours (H)
\$5.35	1
\$10.70	2
\$16.05	3

- A.  $5.35 \times H$
- B.  $H + 5.35$
- C.  $5.35 \div H$
- D. 5.35
26. A new video game system costs \$120.00. It costs \$25.00 more than an older game system. If  $c$  is the cost of the older video game system, which equation should you use to calculate the cost of the older game?
- A.  $\$120 = \$145.00 - c$
- B.  $\$120 = \$145.00 + c$
- C.  $\$120 = \$25.00 - c$
- D.  $\$120 = \$25.00 + c$
27. Find the value of  $x$  when  $5x = 65$ .
- A. 8
- B. 13
- C. 32
- D. 52

28. Find the value of  $x$  when  $2x - 5 = 21$ .
- A. 8
  - B. 13
  - C. 32
  - D. 52
29. What can you do mathematically to change the equation  $x + 5 = 25$  into  $x = 20$ ?
- A. Add 5 to both sides of the equation.
  - B. Subtract 5 from both sides of the equation.
  - C. Let  $x = 5$ .
  - D. Graph the equation on the number line.
30. How should you solve the equation  $x + 5 = 25$ ?
- A. Add 5 to both sides of the equation to get  $x + 10 = 25$ .
  - B. Subtract 5 from both sides of the equation to get  $x - 5 = 20$ .
  - C. Multiply both sides of the equation by 5 to get  $x + 25 = 125$ .
  - D. Subtract 5 from both sides of the equation to get  $x = 20$ .
31. Tammy says that the equation  $50x = 1350$  is the same as  $10x = 270$ ? How could she prove this?
- A. She could subtract  $40x$  from the first equation to get the second equation.
  - B. She could add  $50x$  and  $10x$ , and  $1350$  and  $270$ .
  - C. She could divide both sides of the first equation by 5 to get the second equation.
  - D. She could find the ratio of  $1350$  to  $270$ .

- 32.** How should you solve the equation  $5x = 25$ ?
- A. Subtract 5 from both sides of the equation.
  - B. Subtract 5 from the left side and 20 from the right side.
  - C. Divide both sides of the equation by 5.
  - D. Divide the left side by  $x$  and the right side by 5.
- 33.** A rod is 2 m long. How long is it in mm?
- A. 20 mm
  - B. 200 mm
  - C. 2,000 mm
  - D. 20,000 mm
- 34.** John has ordered 10 square yards of carpet for his living room. How many square feet of carpet is this?
- A. 90 sq. ft.
  - B. 100 sq. ft.
  - C. 144 sq. ft.
  - D. 900 sq. ft.

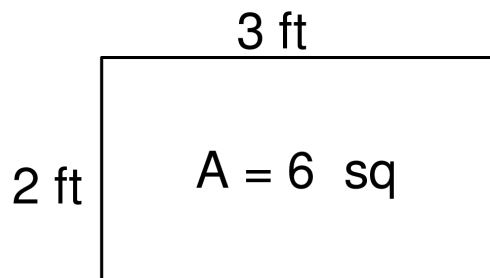
35. Sarah would like to fence in her back yard. She needs 180 feet of fencing to do this. How many yards of fencing would she need?

- A. 3 yards
- B. 15 yards
- C. 60 yards
- D. 540 yards

36. Becky's backyard is 60 feet wide. How many yards wide is her backyard?

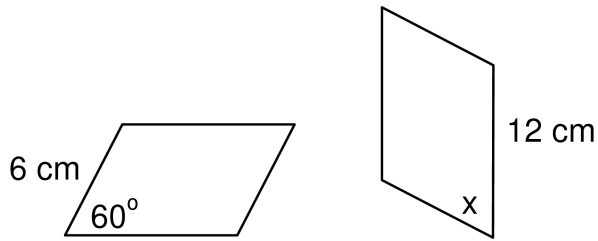
- A. 20 yards
- B. 180 yards
- C. 60 yards
- D. 3 yards

37. A rectangle has sides of 2 feet and 3 feet. Its area is 6 square feet. What is the area of this rectangle **in square inches**?



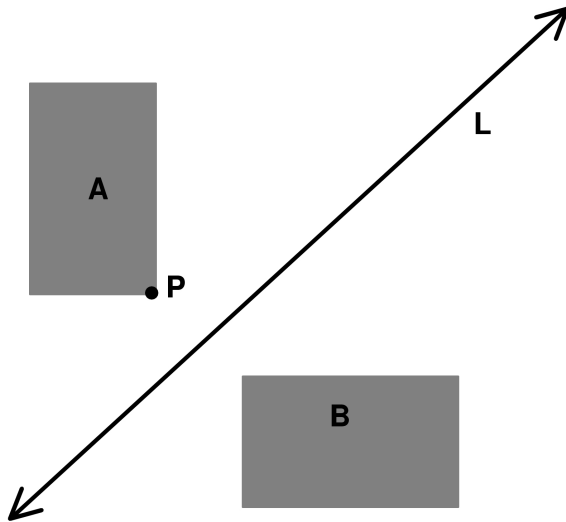
- A. 60 square inches
- B. 120 square inches
- C. 144 square inches
- D. 864 square inches

38. These two rhombuses are congruent. Therefore the measure of angle  $x$  is



- A.  $30^\circ$
- B.  $60^\circ$
- C.  $115^\circ$
- D.  $120^\circ$

39. Which transformation moves rectangle A into rectangle B?



- A. two translations: first down, and then to the right
- B. a rotation around point P
- C. a reflection through the line
- D. an expansion from quadrant 2 to quadrant 1

### Open-Ended Questions

Provide your answer in the space provided.

1. Put each number below in its appropriate place on the number line. Use a dot to represent its place, and write the number below its dot.

$$\frac{7}{2}$$

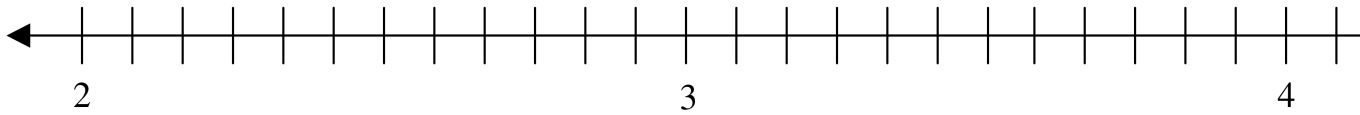
$$3\frac{3}{4}$$

$$3\frac{5}{12}$$

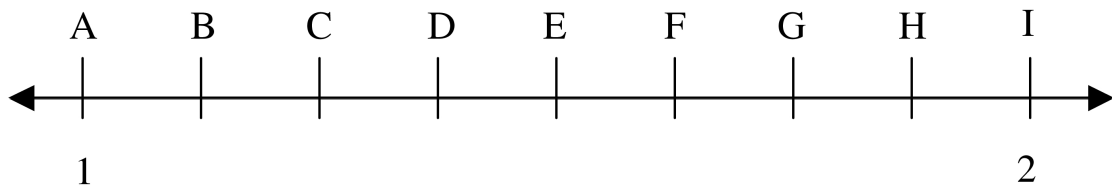
$$\frac{44}{12}$$

$$3.5$$

$$2.25$$



2. Match the numbers below to the correct letter position on the number line.



$$1.25 \quad \underline{\hspace{2cm}}$$

$$1\frac{7}{8} \quad \underline{\hspace{2cm}}$$

$$1.5 \quad \underline{\hspace{2cm}}$$

$$1\frac{1}{8} \quad \underline{\hspace{2cm}}$$

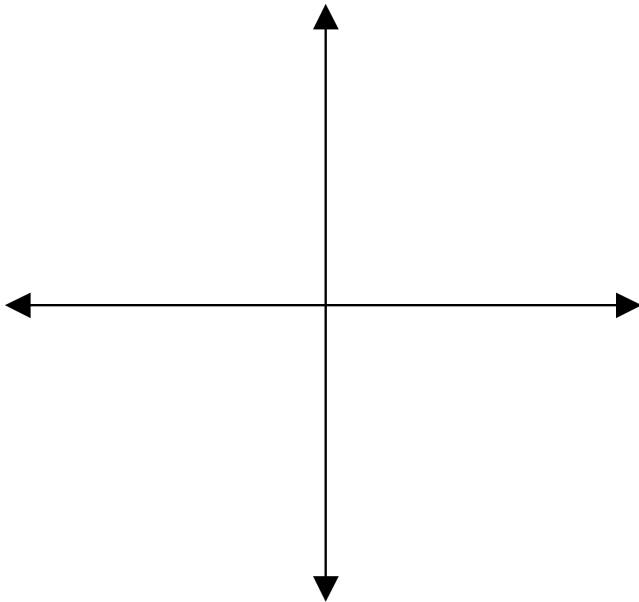
$$\frac{11}{8} \quad \underline{\hspace{2cm}}$$

3. Place these numbers in the correct order from smallest to largest.

1.5       $1\frac{7}{8}$       1.25       $1\frac{1}{8}$        $\frac{11}{8}$

\_\_\_\_\_? \_\_\_\_\_? \_\_\_\_\_? \_\_\_\_\_? \_\_\_\_\_

4. Plot the coordinates (-6, 3):



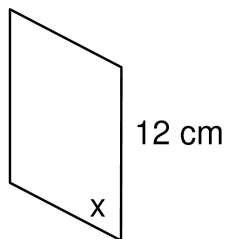
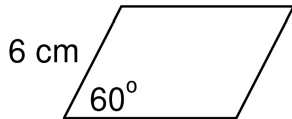
5. Is this solvable:  $3x - 7$

yes or no

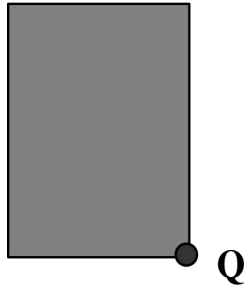
Circle yes or no, then explain your answer.

6. Solve  $x + 12 = 23$ . Show all your work. Justify your solution (explain what you did and why you did it).

7. These two rhombuses are congruent. Therefore the measure of angle  $x$  is \_\_\_\_\_. Explain how you got your answer.



8. **Part 1:** In the figure below, first draw the rotation of the rectangle  $90^\circ$  around point Q.



**Part 2:** Then draw the translation of the rectangle six units downward. You may ask your teacher for graph paper for this item.