



MISSISSIPPI  
DEPARTMENT OF  
EDUCATION

Ensuring a bright *future* for every child

## **Grade 6 Mathematics**

### ***Sample Test Items***



1. Jamie is mixing 3 parts of red paint for every 2 parts of blue paint. Which statements are true about the ratios of paint?

Select **two** answer choices.

- Ⓐ The amount of blue paint is  $\frac{2}{3}$  the amount of red paint.
- Ⓑ There are 2 parts of blue paint for every 5 parts of red paint.
- Ⓒ The amount of red paint is  $\frac{5}{3}$  the amount of total paint mixture.
- Ⓓ The amount of total paint mixture is  $\frac{3}{2}$  the amount of blue paint.
- Ⓔ There are 5 parts of total paint mixture for every 2 parts of blue paint.

**2.** It takes Julio 6 hours to bake 5 cakes. At what rate are the cakes baked?

Ⓐ  $\frac{5}{6}$  cake per hour

Ⓑ 1 cake per hour

Ⓒ  $\frac{6}{5}$  cakes per hour

Ⓓ 11 cakes per hour

3. Which table displays equivalent ratios?

(A)

Input	Output
1	5
3	7
5	9

(B)

Input	Output
2	3
4	6
8	12

(C)

Input	Output
1	3
2	4
3	5

(D)

Input	Output
2	3
4	5
5	6

4. A field in the shape of a rectangle has an area of  $\frac{1}{3}$  square mile.

The length of the field is  $\frac{2}{5}$  mile. What is the width of the field?

Ⓐ  $\frac{2}{15}$  mile

Ⓑ  $\frac{11}{15}$  mile

Ⓒ  $\frac{5}{6}$  mile

Ⓓ  $1\frac{1}{5}$  miles

**5.** What is the quotient of 38,304 and 42?

Ⓐ 807

Ⓑ 892

Ⓒ 912

Ⓓ 933

6. The following question has two parts. First, answer Part A. Then, answer Part B.

**Part A**

Casey and 5 friends went to the movies. They spent a total of \$52.50 buying tickets. The cost of each movie ticket is the same. How much did each movie ticket cost?

Write the answer in the box.

\$

**Part B**

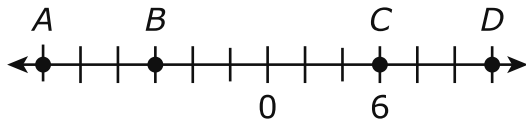
They each bought a popcorn and drink combo for \$5.25 each. How much did Casey and his friends spend altogether at the concession stand?

Write the answer in the box.

\$



7. Four different points are shown on the number line.



Which point represents  $-6$  on the number line?

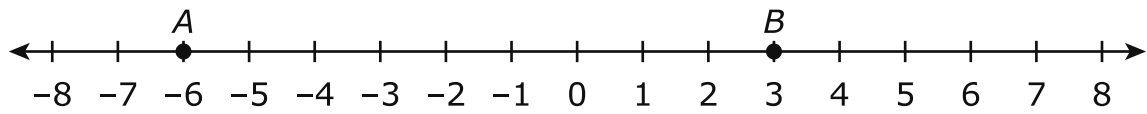
Ⓐ *A*

Ⓑ *B*

Ⓒ *C*

Ⓓ *D*

8. A number line is shown.



Which expression could be used to determine the distance between point  $A$  and point  $B$ ?

- Ⓐ  $-6 - 3$
- Ⓑ  $-6 + 3$
- Ⓒ  $|-6 + 3|$
- Ⓓ  $|-6 - 3|$

9. Hannah wrote an expression equivalent to  $7^6$ . Which expression could be Hannah's?

Ⓐ  $6 + 6 + 6 + 6 + 6 + 6 + 6$

Ⓑ  $6 \cdot 6 \cdot 6 \cdot 6 \cdot 6 \cdot 6 \cdot 6$

Ⓒ  $7 + 7 + 7 + 7 + 7 + 7$

Ⓓ  $7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 \cdot 7$

**10.** Which expression matches the phrase “4 less than 3 times a number”?

Ⓐ  $4 - 3n$

Ⓑ  $3n - 4$

Ⓒ  $4n - 3$

Ⓓ  $3 - 4n$

**11.** Which expressions are equivalent to  $8 + 2m$ ?

Select **two** answer choices.

Ⓐ  $2(4 + m)$

Ⓑ  $10m$

Ⓒ  $8 + m^2$

Ⓓ  $8 + m + m$

Ⓔ  $4(2 + m)$

**12.** Which value of  $x$  makes  $7x = 147$  true?

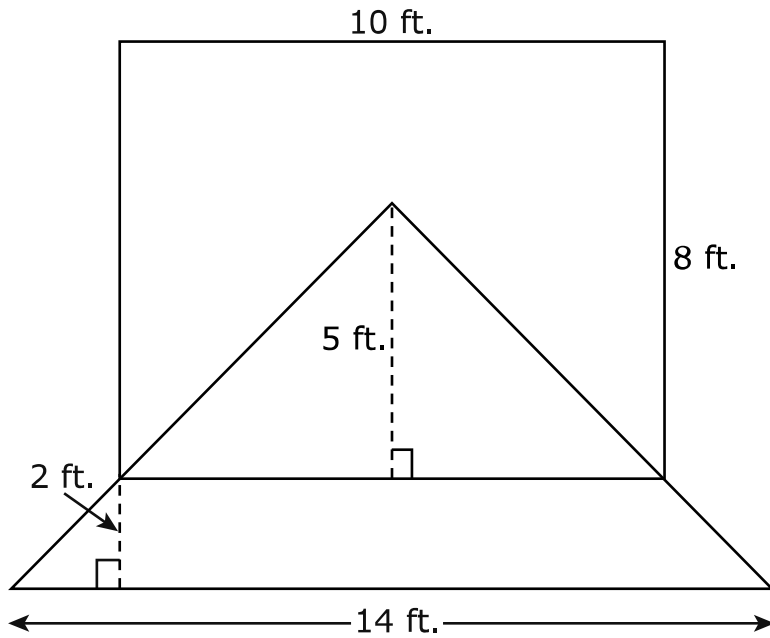
Ⓐ 11

Ⓑ 21

Ⓒ 140

Ⓓ 154

13. An artist is painting a mural at the Hattiesburg Zoo. She draws a diagram of the mural before painting.



What is the total area of the mural?

Write the answer in the box.

<input type="text"/>	ft. <sup>2</sup>
----------------------	------------------

- 14.** The dimensions of a concrete basketball court are  $31\frac{1}{3}$  yards by  $16\frac{2}{3}$  yards. The thickness of the concrete pad is  $\frac{1}{9}$  yard. What is the volume of the concrete pad?
- Ⓐ  $48\frac{1}{9}$  yd.<sup>3</sup>
- Ⓑ  $58\frac{2}{81}$  yd.<sup>3</sup>
- Ⓒ  $497\frac{1}{9}$  yd.<sup>3</sup>
- Ⓓ  $522\frac{2}{9}$  yd.<sup>3</sup>



**15.** A design for a triangular coffee table is drawn on a coordinate plane. One corner of the table is located at  $(3, 13)$ . A second corner is located at  $(2, 3)$ . The third corner of the table is 7 units to the right of the second corner. What are the coordinates of the third corner?

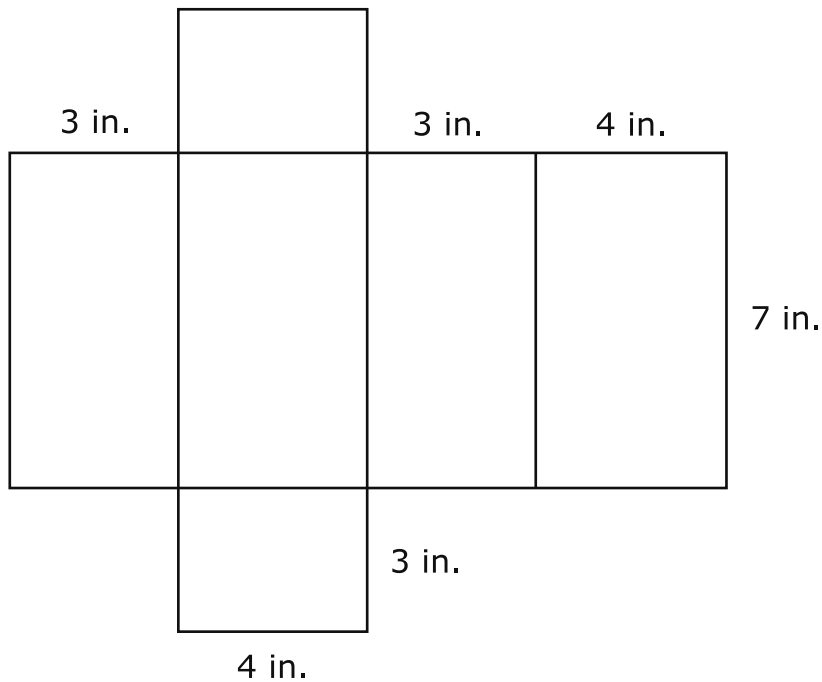
Ⓐ  $(2, 10)$

Ⓑ  $(3, 6)$

Ⓒ  $(9, 3)$

Ⓓ  $(10, 13)$

16. Tiffany wants to wrap a gift that is in the shape of a rectangular prism. The gift has a length of 7 inches, a width of 4 inches, and a height of 3 inches. The net of the gift is shown.



What is the minimum amount of wrapping paper Tiffany needs to wrap the gift?

- Ⓐ 84 cubic inches
- Ⓑ 84 square inches
- Ⓒ 122 cubic inches
- Ⓓ 122 square inches

**17.** Which questions are statistical questions?

Select **two** answer choices.

- Ⓐ How old is my math teacher?
- Ⓑ How many feet are in three miles?
- Ⓒ What is each student's favorite dessert?
- Ⓓ In what state is the Statue of Liberty located?
- Ⓔ How many pets does each kid in my class have?

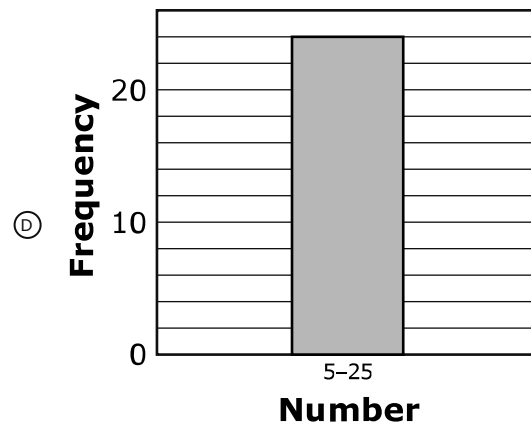
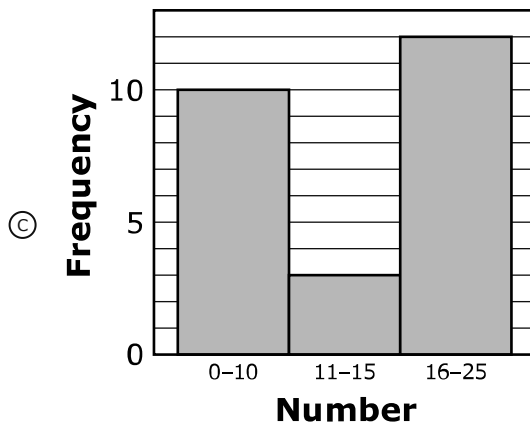
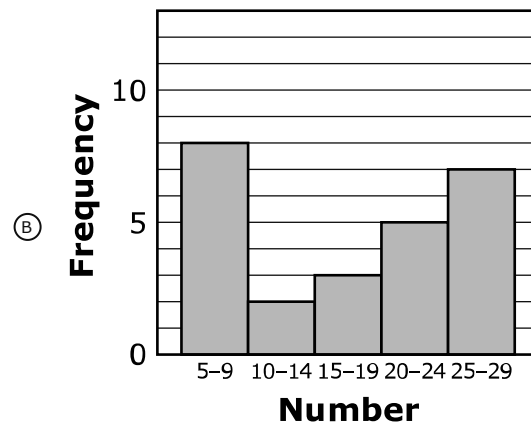
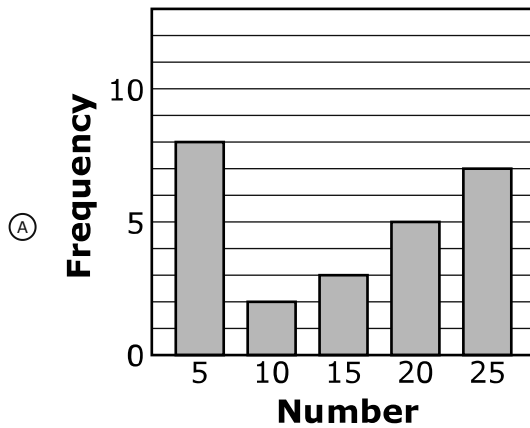
**18.** Which question could be answered using a measure of variability?

- Ⓐ How many boys are in the sixth grade?
- Ⓑ What is the average number of touchdowns scored during a football season?
- Ⓒ If the dance team lined up from shortest to tallest, who would be in the middle?
- Ⓓ What is the height difference between the shortest and tallest person in the room?

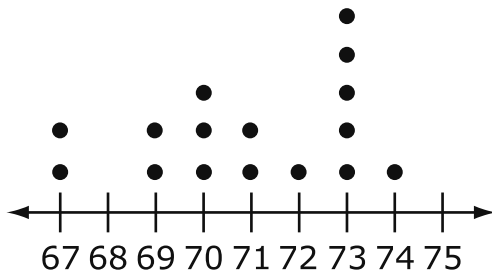
19. A frequency table is shown.

<b>Number</b>	5	10	15	20	25
<b>Frequency</b>	8	2	3	5	7

Which histogram accurately displays the data in the frequency table?



20. The basketball team's scores for the last 16 games are shown in the dot plot.



How many times did the basketball team have a score in the 70s?

- Ⓐ 3
- Ⓑ 4
- Ⓒ 10
- Ⓓ 12

**This page is intentionally left blank.**





**Grade 6 Math Sample Test Items  
Paper-Pencil Answer Key Document**

<b>Sequence</b>	<b>Key</b>	<b>Standard</b>	<b>Possible Points</b>
1	A,E	6.RP.1	1
2	A	6.RP.2	1
3	B	6.RP.3	1
4	C	6.NS.1	1
5	C	6.NS.2	1
6	8.75, 31.50	6.NS.3	2
7	B	6.NS.6	1
8	D	6.NS.9	1
9	D	6.EE.1	1
10	B	6.EE.2	1
11	A,D	6.EE.4	1
12	B	6.EE.5	1
13	104	6.G.1	1
14	B	6.G.2	1
15	C	6.G.3	1
16	D	6.G.4	1
17	C,E	6.SP.1	1
18	D	6.SP.3	1
19	B	6.SP.4	1
20	D	6.SP.5	1