



**THIRD SPACE
LEARNING**

6th Grade Colorado State Practice Math Test

Colorado Practice Test Grade 6

Grade 6

Questions

Name:

Class:

Date:

Score:

Unit 1

12 questions

This unit has 2 sections: a non-calculator section and a calculator section.

Section 1 (Non-Calculator):

8 questions

You may NOT use a calculator in this section.

1 The point $(-1, -3)$ is plotted on the coordinate plane. Select two statements that are true.

- A. The reflection point across the x -axis is $(-3, -1)$
- B. The reflection point across the x -axis is $(1, -3)$
- C. The reflection point across the x -axis is $(-1, 3)$
- D. The reflection point across the y -axis is $(-3, -1)$
- E. The reflection point across the y -axis is $(1, -3)$
- F. The reflection point across the y -axis is $(-1, 3)$

2 Graph the inequality, $-0.5 \geq x$



3 Which expression is equivalent to $88 + 28$?

- A. $4(22 + 7)$
 - B. $8(11 + 7)$
 - C. $4(22 + 1) + 7$
 - D. $8(22 + 7)$
-

4 Write an expression using a base and an exponent that is equivalent to


$$9 \times 9 \times 9 \times 9 \times 9 \times 9$$

Use the space below to write your answer:

 Answer

- 5 Enter your answer in the box provided.

$$500.76 \div 5.2$$

 Answer

- 6 What is the value of b ? Place your answer in the box provided.

$$\frac{b}{3} = 12$$

 Answer

- 7 Isadora needs 20.5 grams of flour and 13.125 grams of sugar to make a mixture of muffins for her bakery. If she uses 19.25 grams of the mixture, how many grams does she have left? Use the box below to write your answer.

 Answer

8 Which expression is equivalent to 15 less than the quotient of 7 and f ?

A. $15 - \frac{f}{7}$

B. $15 - (f \times 7)$

C. $\frac{f}{7} - 15$

D. $f \times 7 - 15$

Section 2 (Calculator):

4 questions

You may use a calculator for this section.

- 9 What is 30% of the 120? Use the space below to show your work.

 Answer

- 10 The table below shows the types of fruit the Samaha Farm sold on Saturday afternoon.

Samaha Farm Sales	
Type of Fruit	Number of fruits sold
Peaches	28
Watermelon	12
Apples	32
Plums	36

Part A:

Write the ratio of the number of peaches sold to the total number of plums sold. _____

Part B:

Select the numbers that make the statement true.

For every _____ peaches that are sold, _____ plums sold.

- A. 7 and 9
- B. 8 and 9
- C. 9 and 7
- D. 9 and 8

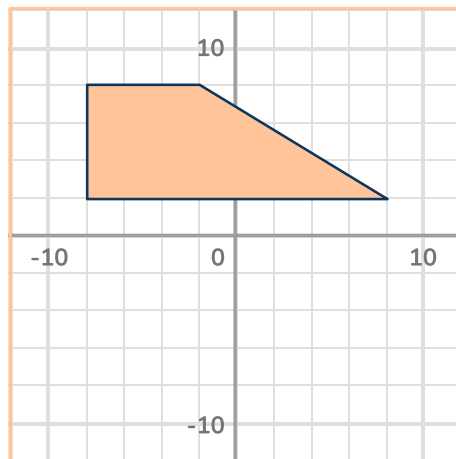
11 Devon goes to the store and buys the following:

- 4 pounds of almonds for \$13.12
- 3 pounds of cashews for \$8.34
- 5 pounds of chocolate covered pretzels for \$21.40
- 2 pounds of liquorice for \$5.60

Which food item is the cheapest per pound? Use the space below to show your work.

 Answer

12 What is the area of the shape shown on the graph?



Use the space below to write your answer.

 Answer

Unit 2

16 questions

You may use a calculator for this section.

- 1 Samaha's Farm sells peaches for \$2.60 per pound.

Part A:

If a customer buys x pounds of peaches for \$13, which equation can be used to find the number of pounds of peaches they buy?

- A. $2.60 + x = 13$
- B. $13 \times x = 2.60$
- C. $2.60 \times x = 13$
- D. $13 + x = 2.60$

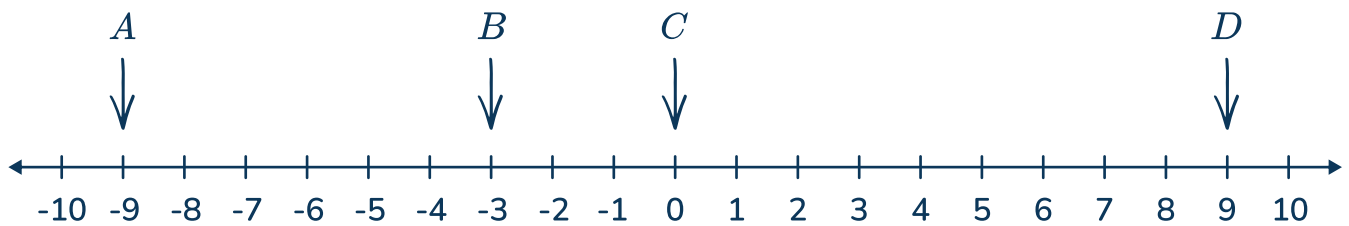
Part B:

Due to a drought, the owner of the farm had to change the price of the peaches. The equation $2.60 + p = 3.75$ represents the relationship between the old and new prices of peaches, where p is the change in the price per pound of peaches.

Select the correct value of p .

- A. 1.51
- B. 0.51
- C. 0.15
- D. 1.15

2 Where is $-(-9)$ on the number line?



- A. A
- B. B
- C. C
- D. D

3 Students in a math class are comparing decimal numbers.

Student A states that $9.38 > 9.402$

Student B states that $9.38 < 9.402$


Part A:

Use the space below to explain which student is correct.


 Answer

Part B:

Find the sum of the two decimal numbers and round the sum to the nearest tenth. Use the space below to write your answer.

 Answer

- 4 The area of a rectangular rug is $6\frac{3}{4}$ ft² and the length of the rug is $2\frac{1}{2}$ ft. Find the length of the width of the rug. Use the space below to show your work.

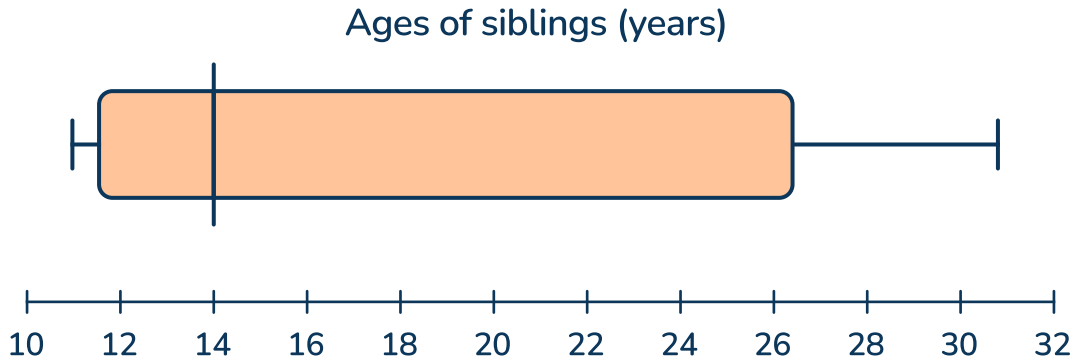
 Answer

-
- 5 Find the value of the expression $\frac{1}{4}a + c^3$ when $a = 20$ and $c = 2$. Use the space below to show your work.

 Answer

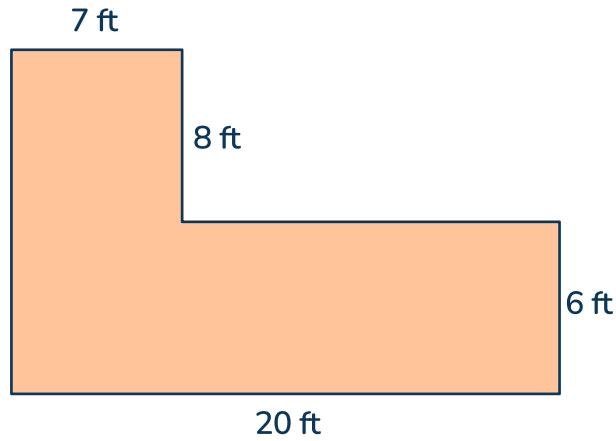
6 Use the graph below.

Which statement about the data shown in the box plot below is true?



- A. The range is 22 years and the IQR is 15.
- B. The second half of the data has less variability than the first half.
- C. The median age is 21 years.
- D. At least half the siblings are 14 years old or less.

- 7 Summit High School has a storage facility with a floor plan in the shape below. The height of the storage facility is 10 feet.




Part A:

Create an equation or equations that represents the total volume of the storage facility.

 Answer

Part B:

Calculate the volume.

 Answer

- 8 Below are the total scores for the first 5 games Otto's baseball team played.

Total score: 5, 9, 2, 2, 8.

What is the mean of the total scores?

Use the space below to write your answer:

 Answer

-
- 9 Select all the comparisons that are true.

A. $|-5| < -5$

B. $|6| = 6$

C. $|-8| = |8|$

D. $|-4| > |3|$


E. $9 > |-9|$

- 10 Emery is collecting data on two water filters.

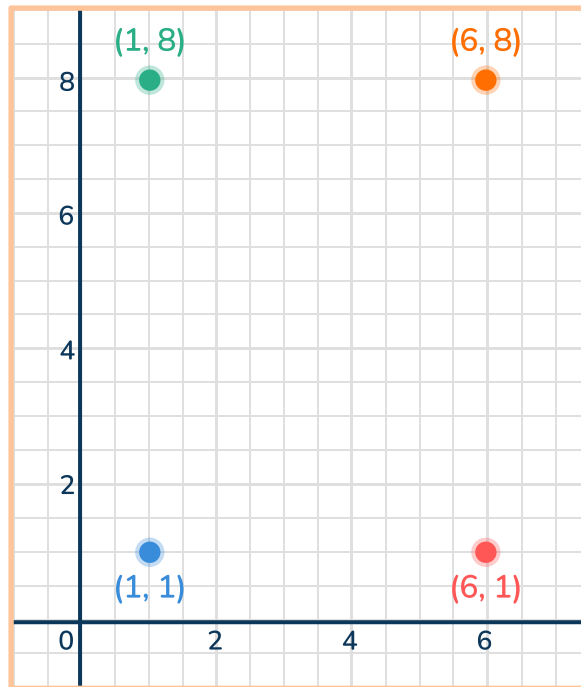
Water Filter A	
Time (minutes)	Ounces filtered
3	51
4	68
7	119

Water Filter B	
Time (minutes)	Ounces filtered
2	32
5	80
6	96

Determine which filter is faster and by how many ounces per minute.
Use the space below to write your answer.

 Answer

- 11 The graph below represents the coordinates where a farmer puts stakes in the ground to build a fence.



Use the space below to find the perimeter of the fence. Provide an explanation for your answer.

 Answer

- 12 Katie is trying to figure out which box contains more space. The first box has a base area of 32 in^2 . The height of the box is $12\frac{1}{3}$ in. The second box has a base area of 36 in^2 and a height of $9\frac{1}{2}$ in. Which box has the greater interior space? Use the space below to write your answer.

 Answer

- 13 Lucas and friends are hiking in Yellowstone National Park. Before they start their hike, they buy 6 bags of mixed nuts. Each bag contains $2\frac{1}{2}$ cups of mixed nuts. The mixed nuts are shared among Lucas and his 4 friends.

Part A:

How many cups of mixed nuts will each of them get? Use the space below to show your work.

 Answer

Part B:

Lucas and his friends plan to visit Yellowstone waterfalls scenic lookout. They will rest after they hike 3 miles. They will hike the remaining $1\frac{1}{2}$ miles to the lookout. The trail they will take to return from the lookout is $\frac{3}{4}$ mile shorter than the trail they will use to go to the lookout. Each of them will bring $\frac{1}{4}$ gallon of water per mile for the total miles hiked to and from the lookout.

- Determine the total distance, in miles, Lucas and each of his friends will hike.
- Determine the total number of gallons of water each of them will bring.

Use the space below to show your work or explain your answer.

 Answer

- 14 Lucas says the two expressions below are equivalent.

$$5c - 7b \quad \text{and} \quad 7b - 5c$$


Is Lucas correct? Use the space below to write your explanation.

 Answer

- 15 The student council is selling tickets to the school dance.
The tickets cost \$4 each.


Part A:

Write an equation representing the total amount of money the student council makes from selling the tickets. Use c for the total cost and t for the number of tickets. Use the space below to write your answer.

 Answer

Part B:

If the student council sells 120 tickets, how much money will they make? Use the space below to write your answer.

 Answer

Part C:

If the student council makes \$552, how many tickets did they sell? Use the space below to write your answer.

 Answer

16 Kelly drove 228 miles in 4 hours.

Part A:

How many miles per hour did Kelly drive? Place your answer in the box provided.

 Answer

Part B:

Kelly will drive 513 more miles. She continues to drive at the same rate. How many hours will it take Kelly to drive 513 miles? Place your answer in the box provided.

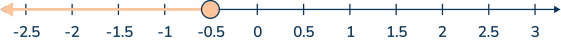
 Answer

Part C:

Kelly stopped to fill the car with 12 gallons of gas. She had driven 384 miles using the previous 12 gallons of gas. How many miles per gallon did Kelly's car get? Place your answer in the box provided.

 Answer

Answer Key - Multiple Choice

Unit 1			
Section 1 (Non-calculator)			
Item number	Correct answer	Standard(s)	DOK
1	C, E	6.NS.C.8	DOK 2
2		6.EE.B.8	DOK 2
3	A	6.EE.A.4	DOK 2
4	9^6	6.EE.A.1	DOK 1
5	96.3	6.NS.B.3	DOK 1
6	$b = 36$	6.NS.B.5	DOK 2
7	$20.5 + 13.125 = 33.625$ $33.625 - 19.25 = 14.375$ 14.375 grams of mixture left	6.NS.B.3	DOK 2
8	C	6.EE.A.3	DOK 2
Section 2 (Calculator)			
Item number	Correct answer	Standard(s)	DOK
9	$120 \times 0.30 = 36$	6.RP.A.3c	DOK 1
10	Part A: $\frac{28}{36} = \frac{7}{9}$ Part B: 7 peaches, 9 plums A	6.RP.A.3.a	DOK 2

Section 2 (Calculator)			
Item number	Correct answer	Standard(s)	DOK
11	<p>The unit rates are:</p> <p>Almonds: $13.12 \div 4 = 3.28$</p> <p>Cashews: $8.34 \div 3 = 2.78$</p> <p>Chocolate covered pretzels: $21.40 \div 5 = 4.28$</p> <p>Liquorice: $5.50 \div 2 = 2.80$</p> <p>Cashews are the cheapest per pound at \$2.78</p>	6.RP.A.2	DOK 2
12	66 units ²	6.G.A.1 6.G.A.3	DOK 3

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Unit 2 Calculator			
Item number	Correct answer	Standard(s)	DOK
1	Part A: C Part B: D	6.EE.C.9 6.EE.B.6	DOK 3
2	D	6.NS.C.6	DOK 1
3	Part A: Student B is correct because $9.38 = 9\frac{38}{100}$ and $9.402 = 9\frac{402}{1000}$ Comparing $\frac{38}{100}$ and $\frac{402}{1000}$ so that they have the same denominator, $\frac{380}{1000}$ is less than $\frac{402}{1000}$ So 9.38 is less than 9.402 Part B: $9.38 + 9.402 = 18.782$ Rounded to the nearest tenth is 18.8	6.NS.B.3	DOK 3
4	$2\frac{1}{2} \times \text{width} = 6\frac{3}{4}$ $\text{width} = 2\frac{7}{10}$ ft	6.EE.B.5	DOK 2
5	$\frac{1}{4}a + c^3$ when $a = 20$ and $c = 2$ $\frac{1}{4}(20) + 2^3$ $5 + 8 = 13$ 13	6.EE.A.2c	DOK 2
6	D	6.SP.B.4	DOK 2

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Unit 2 Calculator			
Item number	Correct answer	Standard(s)	DOK
7	<p>Part A: $(7 \times 8 \times 10) + (6 \times 20 \times 10) = V$</p> <p>Part B: $560 + 1200 = 1760$ Volume = 1,760 ft³</p>	<p>6.G.A.2 6.EE.B.6 6.EE.B.7</p>	DOK 3
8	Mean = 5.2	6.SP.A.3	DOK 1
9	B, C, D	6.NS.C.7	DOK 1
10	<p>Filter A: $\frac{51 \text{ oz}}{3 \text{ minutes}} = 17 \text{ oz/min}$</p> <p>Filter B: $\frac{32 \text{ oz}}{2 \text{ minutes}} = 16 \text{ oz/min}$</p> <p>Unit rate of Filter A is greater than the unit rate of Filter B, so Filter A is faster by 1 ounce.</p>	6.RP.A.2	DOK 2
11	<p>Rectangle is 5 units by 7 units. Perimeter = $5 + 5 + 7 + 7$ Perimeter = 24 units</p>	6.NS.C.8	DOK 2
12	<p>First box</p> $32 \times 12 \frac{1}{3} =$ $\frac{32}{1} \times \frac{37}{3} = 394 \frac{2}{3} \text{ in}^3$ <p>Second box</p> $36 \times 9 \frac{1}{2} =$ $\frac{36}{1} \times \frac{19}{2} = 342 \text{ in}^3$ <p>The first box has a greater volume.</p>	6.G.A.2	DOK 3

Unit 2 Calculator			
Item number	Correct answer	Standard(s)	DOK
13	<p>Part A:</p> $2\frac{1}{2} \times 6 =$ $\frac{5}{2} \times \frac{6}{1} = \frac{30}{2} = 15$ $15 \div 6 = 3\frac{3}{4}$ $3\frac{3}{4} \text{ cups each}$ <p>Part B:</p> $3 \text{ miles} + 1\frac{1}{2} \text{ miles} = 4\frac{1}{2} \text{ miles}$ $4\frac{1}{2} + 3\frac{3}{4} =$ $4\frac{2}{4} + 3\frac{3}{4} = 7\frac{5}{4} = 8\frac{1}{4} \text{ miles}$ $\frac{1}{4} \times \frac{33}{4} = \frac{33}{16} = 2\frac{1}{16} \text{ gallons of water}$	6.RP.A.3	DOK 3
14	NO, they are not the same because $5c$ has a positive coefficient and $-5c$ has a negative coefficient. 5 is not equal to -5 . The same is true for the $7b$ and the $-7b$. They are only the same if $b = c = 0$	6.EE.A.3	DOK 3
15	<p>Part A:</p> $c = 4t$ <p>Part B:</p> $c = 4(120)$ $c = 480$ $\text{\$480}$ <p>Part C:</p> $552 = 4t$ $138 = t$ 138 tickets	6.EE.B.7 6.EE.A.2c	DOK 3

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Unit 2 Calculator			
Item number	Correct answer	Standard(s)	DOK
16	<p>Part A: $228 \div 4 = 57$ 57 mph</p> <p>Part B: $513 \div 57 = 9$ 9 hours</p> <p>Part C: $384 \div 12 = 32$ 32 miles per gallon</p>	<p>6.RP.A.3b 6.RP.A.2 6.EE.C.9</p>	DOK 3

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Breakdown of Assessment by domain				
The Number System (NS)	Ratios and Proportional Relationships (RP)	Expressions and Equations (EE)	Geometry (G)	Statistics and Probability (SP)
23%	20%	40%	11%	6%

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