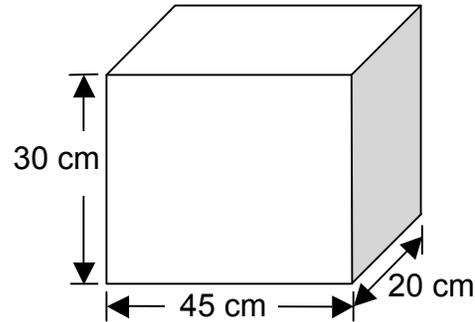

Aquarium

1

James wants to fill his new aquarium $\frac{2}{3}$ full of water. The dimensions of the aquarium are shown in the diagram.

What volume of water, in cubic centimeters, will be in the aquarium when it is $\frac{2}{3}$ full?



- a. 2,200 cubic centimeters
- b. 3,800 cubic centimeters
- c. 18,000 cubic centimeters
- d. 27,000 cubic centimeters

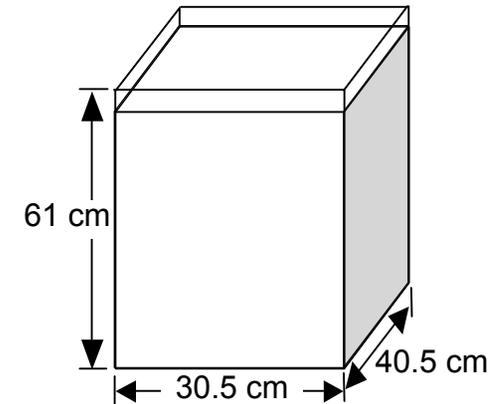
(Florida Department of Education)

Aquarium

2

James wants to fill his aquarium so the water level is three centimeters from the top rim.

About how many gallons of water will it take to fill the aquarium?



$$3,785 \text{ cm}^3 = 1 \text{ gallon of water}$$

- a. 20 gallons
- b. 19 gallons
- c. 18 gallons
- d. 17 gallons

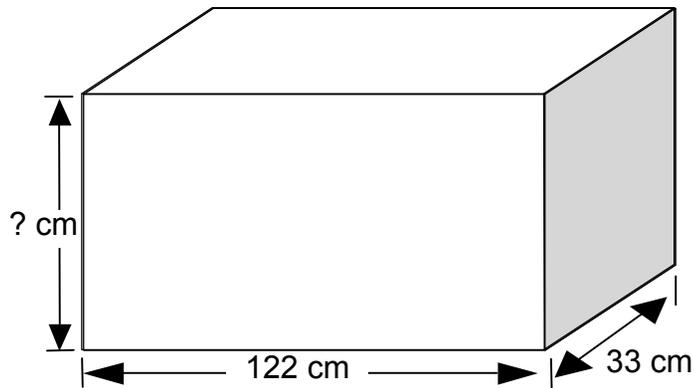
(Adapted from the Florida Department of Education)

Aquarium

3

James wants buy a 55-gallon aquarium for his fish. He has a table than can hold a tank that is 122 cm long by 33 cm wide.

What height is needed for the tank to have a total capacity of about 55-gallons?



$$3,785 \text{ cm}^3 = 1 \text{ gallon of water}$$

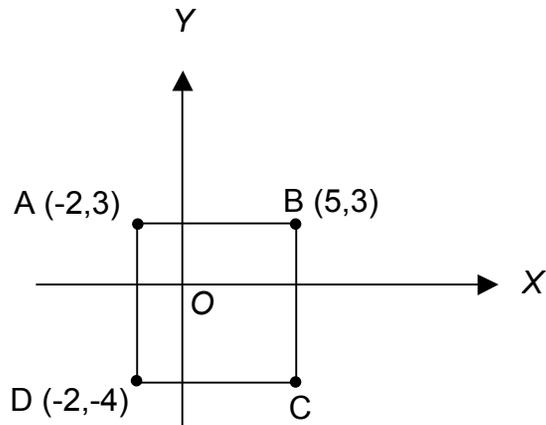
- a. 58 centimeters
- b. 55 centimeters
- c. 52 centimeters
- d. 49 centimeters

(Adapted from the Florida Department of Education)

Coordinates

1

In the figure below, if ABCD is a square, then the coordinates of vertex C are:



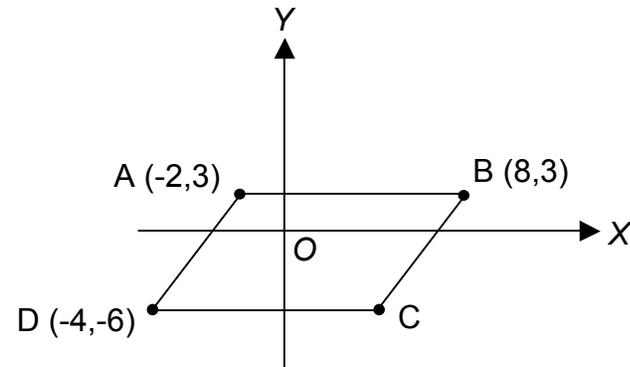
- a. (4, 5)
- b. (3, -4)
- c. (3, -2)
- d. (5, -4)
- e. (5, -2)

(NAEP)

Coordinates

2

In the figure below, if ABCD is a parallelogram, then the coordinates of vertex C are:



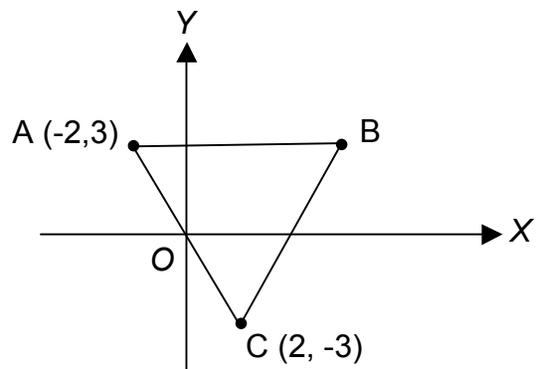
- a. (-4, 6)
- b. (-6, -4)
- c. (6, -4)
- d. (4, -6)

(Adapted from NAEP)

Coordinates

3

In the figure below, if the slope of $\overline{BC} = 3/2$, then the coordinates of vertex B are:



- a. (2, 3)
- b. (4, 3)
- c. (6, 3)
- d. (8, 3)

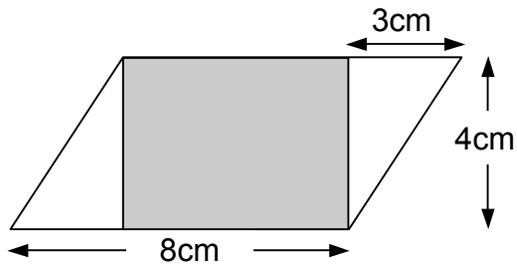
(Adapted from NAEP)

Shapely Areas

1

The figure shows a shaded rectangle inside the parallelogram.

What is the area of the shaded rectangle?



- a. 20 cm^2
- b. 24 cm^2
- c. 32 cm^2
- d. 12 cm^2

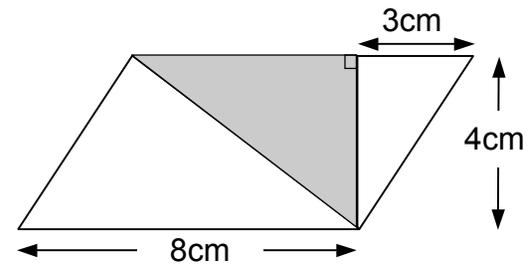
(TIMMS)

Shapely Areas

2

The figure shows a right triangle inside the parallelogram.

What is the area of the shaded triangle?



- a. 10 cm^2
- b. 12 cm^2
- c. 16 cm^2
- d. 20 cm^2

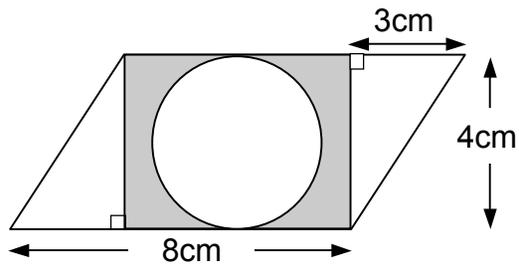
(Adapted from TIMMS)

Shapely Areas

3

The figure shows a circle inside the parallelogram.

What is the approximate area of the shaded figure?



- a. 20 cm^2
- b. 30 cm^2
- c. 12 cm^2
- d. 7 cm^2

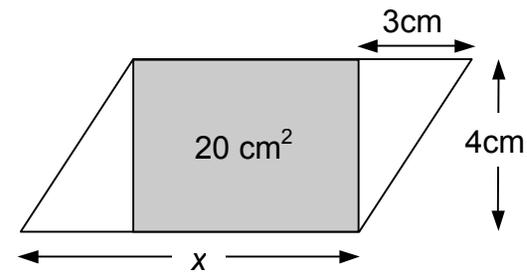
(Adapted from TIMMS)

Shapely Areas

4

The figure shows a shaded rectangle inside the parallelogram, with an area of 20 cm^2 .

What is the length of side x ?



- a. 4 cm^2
- b. 5 cm^2
- c. 8 cm^2
- d. 10 cm^2

(Adapted from TIMMS)

Test Scores

1

The table below shows test scores for a class.

How many students scored in the 80s?

Stem	Leaf
9	0 1 1 5 7
8	0 0 2 4 6 7 9
7	7 7 8 9
6	9
5	2 3
4	4

- a. 2 students
- b. 6 students
- c. 7 students
- d. 9 students

Test Scores

2

The table shows test scores for a class.

What is the median test score?

Stem	Leaf
9	0 1 1 5 7
8	0 0 2 4 6 7 9
7	7 7 8 9
6	9
5	2 3
4	4

- a. 79.05
- b. 86
- c. 86.5
- d. 87

Test Scores

3

The table below shows test scores for a class.

What percent of the students scored in the 80s?

Stem	Leaf
9	0 1 1 5 7
8	0 0 2 4 6 7 9
7	7 7 8 9
6	9
5	2 3
4	4

- a. 70%
- b. 35%
- c. 54%
- d. 65%

(Adapted from Pennsylvania Department of Education)

Test Scores

4

The table below shows two test scores for a class.

Which statement correctly compares the two test scores?

First Test					Second Test									
Leaf					Stem	Leaf								
					10	0	0							
					9	2	3	5	5					
9	7	6	4	2	0	0	8	0	1	1	2	8	9	9
					7	9	8	7	7	7	0	3	5	5
					6	8	9							
					5	3	2							
					4	4								

- a. The median score is higher on the second test.
- b. All of the students received a higher score on the second test.
- c. The range of the data is greater for the second test.
- d. The mean score is higher on the second test.

(Adapted from Pennsylvania Department of Education)