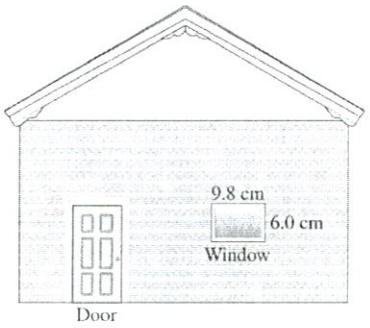
Shape and Space 4

Name:_____

Use the following information to answer question 25.

The diagram below shows the front elevation of a building on a blueprint.



Blueprint scale
1:18

9.8×18
176.4÷1.8
108
1.1m
6.0×18

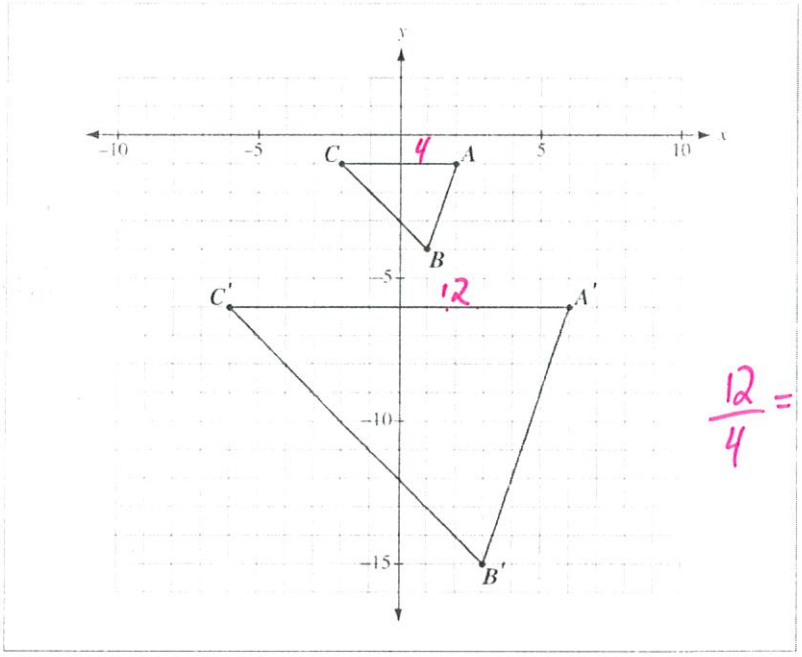
25. Based on the dimensions shown on the blueprint, the actual dimensions of the window, to the nearest tenth of a metre, will be

A. 0.5 m × 0.3 m
B. 1.0 m × 0.6 m
C. 1.8 m × 1.1 m
D. 1.8 m × 3.0 m

Shape and Space 4

Name: _____

Use the following information to answer numerical-response question 9.



$\frac{12}{4} = 3$

Numerical Response

9. What is the scale factor of the enlargement?

Answer: 3

(Record your answer in the numerical-response section on the answer sheet.)

Use the following information to answer numerical-response question 10.

A person who is 200 cm tall casts a shadow that is 40 cm long. At the same time of day, a nearby post casts a shadow that is 16 cm long.

Numerical Response

10. The height of the post is 80 cm.

(Record your answer in the numerical-response section on the answer sheet.)

200 | $\frac{200}{40} = 5$

40

80 | $16 \cdot 5 = 80$

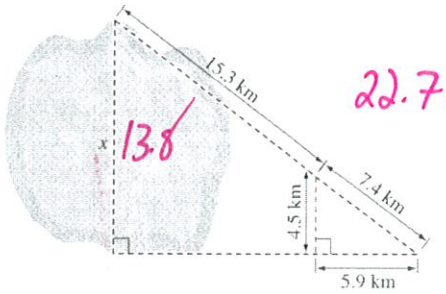
16

Shape and Space 4

Name: _____

Use the following information to answer question 8.

In the diagram below, x represents the approximate distance across a circular lake.



22.7 km

13.8

$\frac{7.4}{4.5} = 1.6$

8. What is the approximate area of the lake, to the nearest square kilometre?

A. 599 km^2
B. 272 km^2
C. 150 km^2
D. 68 km^2

$\frac{22.7}{1.6} = 13.8$

$r = \frac{13.8}{2} = 6.902$

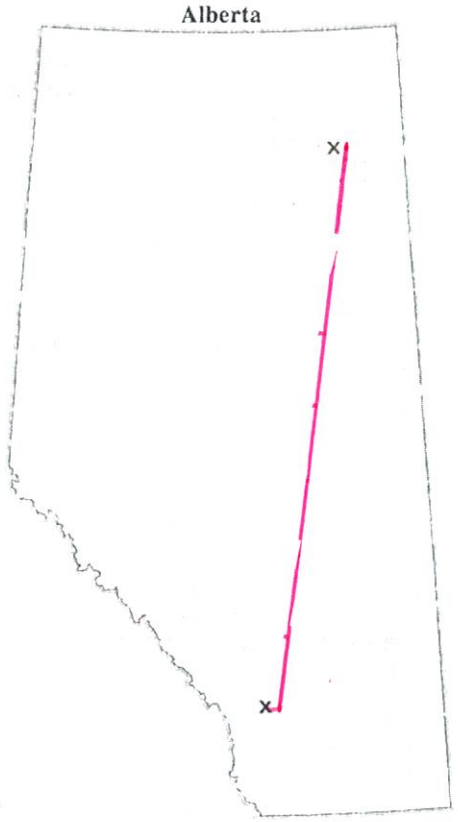
$A_c = \pi r^2 = \pi (6.902)^2$

$= 149.65 cm^2$

$= 150 cm^2$

Use the following information to answer question 32.

The two ×s shown on the map below represent the locations of two communities in Alberta. The distance between the two communities is 1 000 km.



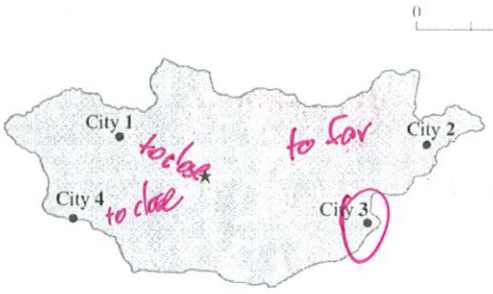
32. Which of the following ratios represents the scale used to create the map?

A. 1 cm:10 km
B. 1 cm:100 km
C. 1 cm:1 000 km
D. 1 cm:10 000 km

Shape and Space 4

Name: _____

The star on the map below represents the capital city of a country. Maria uses the map to locate a city that is 225 km from the capital.

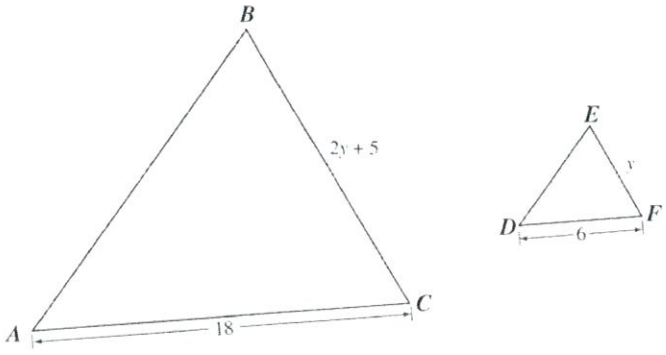


39. Which of the cities on the map above is the city located by Maria?

A. City 1
B. City 2
C. City 3
D. City 4

Use the following information to answer question 39.

Triangle *ABC* is similar to triangle *DEF*.



39. What is the length of side *BC*?

A. 11
B. 13
C. 15
D. 17

$\frac{18}{6} = \frac{2y+5}{y}$

$18 \cdot y = 6(2y+5)$

$18y = 12y + 30$

$-12y \quad -12y$

$6y = 30$

$y = 5$

$BC = 2y + 5$

$= 2(5) + 5$

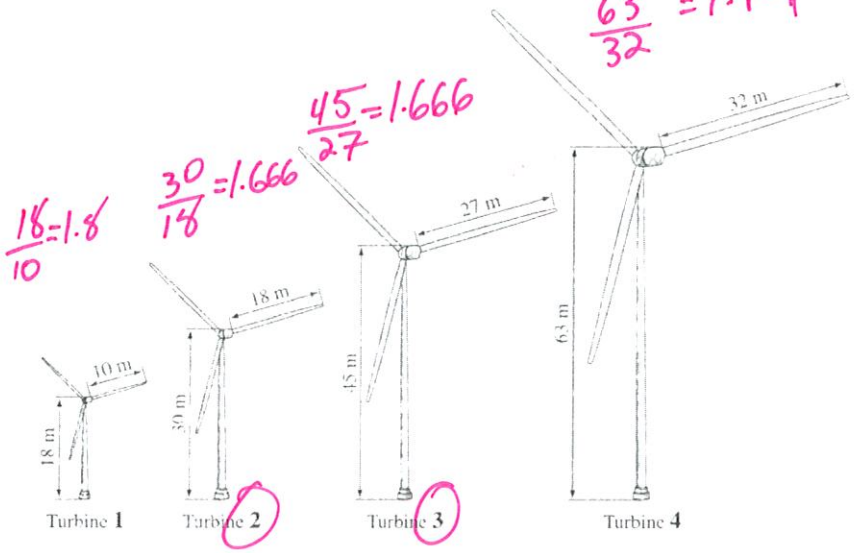
$= 15$

Shape and Space 4

Name: _____

Use the following information to answer numerical-response question 3.

Four examples of wind turbines are shown below.



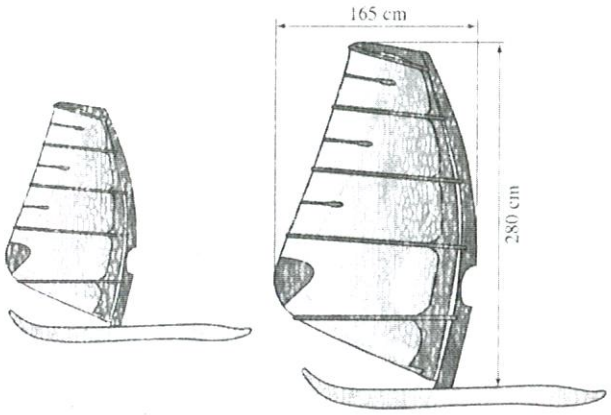
Numerical Response

3. Considering the blade length and the height of each wind turbine, the two turbines that are proportional to each other are turbines 2 and 3.

(Record **both digits** of your answer **in any order** in the numerical-response section on the answer sheet.)

Use the following information to answer numerical-response question 9.

The large sail shown below is an enlargement of the small sail.



Numerical Response

9. What is the height of the small sail if the scale factor of the enlargement is 2.50?

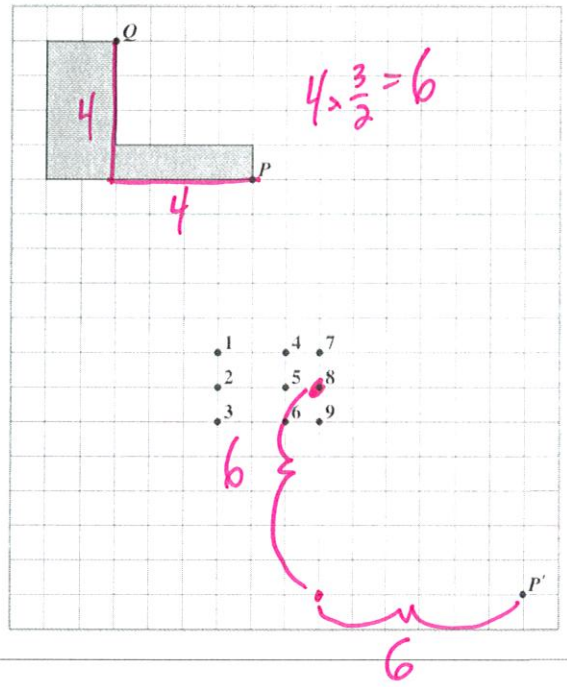
Answer: 112 **cm**

(Record your answer in the numerical-response section on the answer sheet.)

Shape and Space 4

Name: _____

Kate begins to create an image of the shaded 2-D shape shown below by applying a scale factor of $\frac{3}{2}$. The location of Point P' is given.



Numerical Response

5. Which numbered point shown above represents the location of Point Q' in Kate's image?

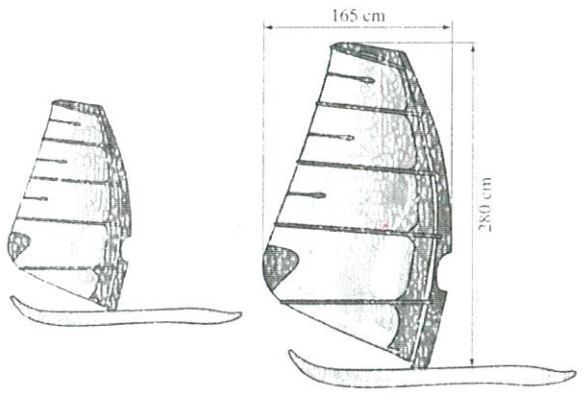
Answer: Point 8

(Record your answer in the numerical-response section on the answer sheet.)

Shape and Space 4

Name:_____

The large sail shown below is an enlargement of the small sail.



Numerical Response

$\frac{280}{2.50} = 112$

9. What is the height of the small sail if the scale factor of the enlargement is 2.50?

Answer: 112 **cm**

(Record your answer in the numerical-response section on the answer sheet.)