

Geometry

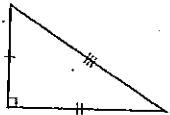
All Multiple Choice

1 This diagram shows a triangle that is:



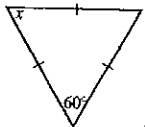
- A obtuse and right angled
- B acute and scalene
- C obtuse and isosceles
- D scalene

2 This diagram shows a triangle that is:



- A acute and scalene
- B obtuse and isosceles
- C scalene
- D right angled and scalene

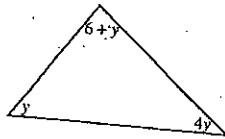
3 The value of the pronumeral x is:



- A 30°
- B 60°
- C 90°
- D 120°

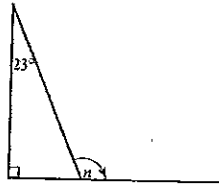
Name: _____

4 The value of the pronumeral y is:



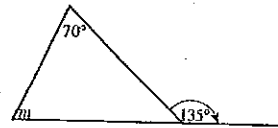
- A 51°
- B 44°
- C 32°
- D 29°

5 The value of the pronumeral n is:



- A 23°
- B 90°
- C 113°
- D 167°

6 The value of the pronumeral m is:



- A 90°
- B 70°
- C 65°
- D 35°

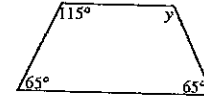
7 A quadrilateral with all sides equal in length is called a:

- A rectangle
- B parallelogram
- C square
- D kite

8 A quadrilateral with two pairs of adjacent sides that are equal is called a:

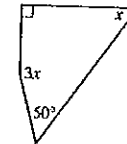
- A parallelogram
- B square
- C kite
- D trapezium

9 The value of the pronumeral y is:



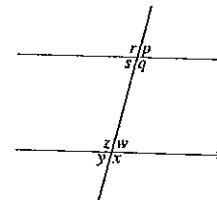
- A 65°
- B 115°
- C 130°
- D 230°

10 The value of the pronumeral x is:



- A 30°
- B 45°
- C 55°
- D 90°

Questions 11 and 12 refer to the following diagram:



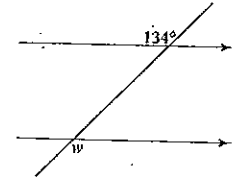
11 State which angle is co-interior to angle s .

- A p
- B w
- C q
- D z

12 The angle which is vertically opposite to r is:

- A p
- B w
- C q
- D z

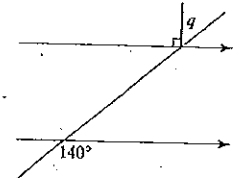
13



The value of the pronumeral w is:

- A 46°
- B 134°
- C 150°
- D 169°

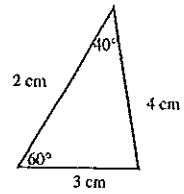
14



The value of the pronumeral q is:

- A 40°
- B 50°
- C 90°
- D 120°

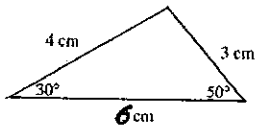
15



The shape above is best described as:

- A a triangle with angles 60° and 40° and side between them of length 2 cm
- B a triangle with angles 60° and 60° and side between them of length 4 cm
- C a triangle with angles 40° and 80° and side between them of length 3 cm
- D a triangle with angles 80° and 40° and side between them of length 3 cm

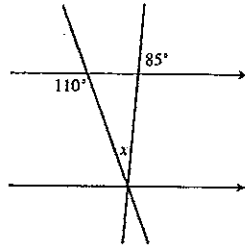
16



The shape above is best described as:

- A a triangle with side lengths 3 cm and 6 cm with an angle 30° between them
- B a triangle with side lengths 4 cm and 3 cm with an angle 50° between them
- C a triangle with side lengths 6 cm and 6 cm with an angle 50° between them
- D a triangle with side lengths 4 cm and 6 cm with an angle 30° between them.

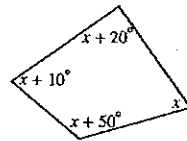
17



The value of the pronumeral x is:

- A 70°
- B 85°
- C 50°
- D 25°

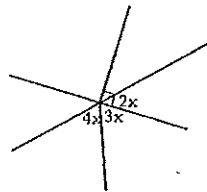
18



Which of the following statements is true?

- A $x + 50^\circ = x + 20^\circ$
- B $4x + 80^\circ = 360^\circ$
- C $x = x + 10^\circ$
- D $4x = 180^\circ$

19



The value of the pronumeral x is:

- A 20°
- B 40°
- C 60°
- D 80°

20 A rectangle can be best described as:

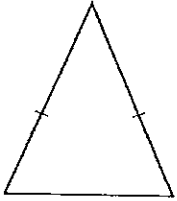
- A A square with uneven sides
- B A parallelogram with a right angle
- C A quadrilateral
- D A rhombus with a right angle.

Geometry

Name: _____

1 Are the following statements true or false?

(a) The triangle is both right angled and scalene.



(b) The triangle is both obtuse and isosceles.



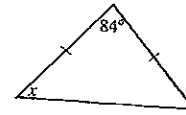
2 Draw a triangle that is both:

(a) acute and equilateral

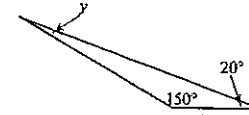
(b) acute and isosceles.

3 Find the value of the pronumeral in each triangle.

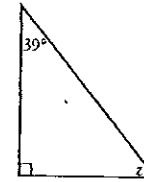
(a)



(b)

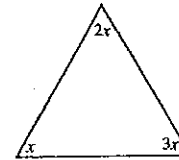


(c)



4 Find the value of the pronumeral in each triangle.

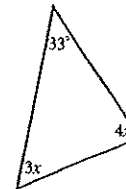
(a)



(b)

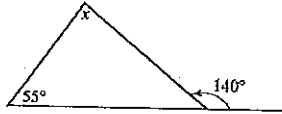


(c)



- 5 A lighthouse shines a beam of light on a point on the ground. The light beam makes an angle of 70° with the tower. Find the angle that the beam makes with the ground.
Draw a diagram assuming a right-angled triangle.

6

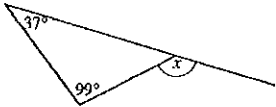


The value of x in the triangle is:

- A 53°
- B 85°
- C 90°
- D 180°

- 7 Find the value of the exterior angles.

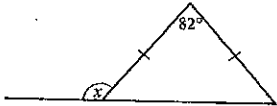
(a)



(b)



8



The two sides of a roof meet at an apex angle of 82° . Find the obtuse angle, x , that the roof makes with the ground.

- 9 (a) Draw a shape with 4 sides where there is only one pair of parallel sides.

(b) How would you best describe this shape?

- 10 Draw the solution to each of the following.

(a) With one line divide a square into two rectangles.

(b) With one line divide a rhombus into two parallelograms.

Geometry

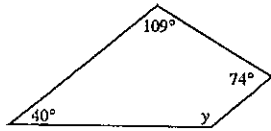
Name: _____

- 1 Find the value of the pronumeral in each of the following.

(a)

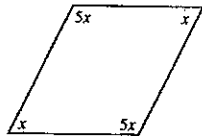


(b)

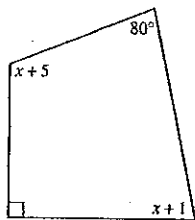


- 2 Find the value of the pronumeral in each of the following.

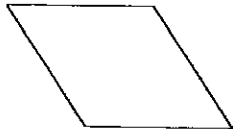
(a)



(b)



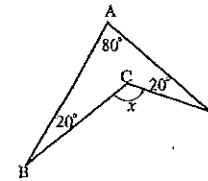
- 3 Mark any axes of symmetry on this rhombus.



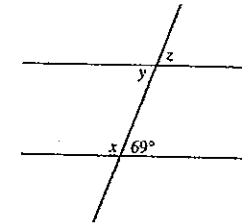
- 4 Amanda built a kite. The angle at the top of the kite is two times larger than the angle at the tail. The angles on the side are 78° .
- (a) Draw a diagram of Amanda's kite.

(b) Find the angle at the tail.

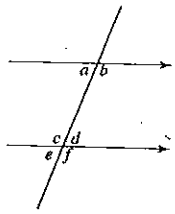
- 5 Find the size of x in this concave figure.



- 6 Find the value of the pronumerals.

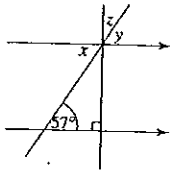


7 Are the following statements true or false?



- (a) Angles a and d are alternate.
- (b) Angles c and f are corresponding.
- (c) Angles b and f are co-interior.

8 Find the value of the pronumerals.



9 Find the supplement of:

- (a) 110°
- (b) 91°
- (c) 75°

10 Find the complement of:

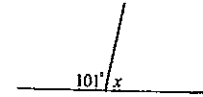
- (a) 5°
- (b) 24°
- (c) 58°

Geometry

Name: _____

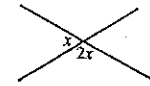
In each of the following, find the size of the pronumeral(s).

1



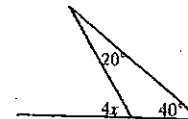
- A 79°
- B 101°
- C 259°
- D 281°

2



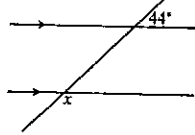
- A 60°
- B 120°
- C 180°
- D 360°

3



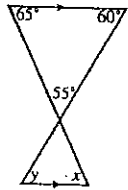
- A 120°
- B 60°
- C 30°
- D 15°

4



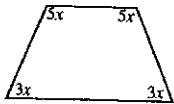
- A 44°
- B 136°
- C 224°
- D 316°

5



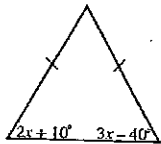
- A $x = 60^\circ, y = 65^\circ$
- B $x = 55^\circ, y = 60^\circ$
- C $x = 65^\circ, y = 60^\circ$
- D $x = 55^\circ, y = 65^\circ$

6



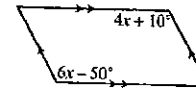
- A 112.5°
- B 45°
- C 67.5°
- D 22.5°

7



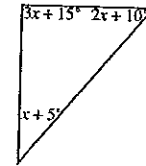
- A 10°
- B 40°
- C 50°
- D 60°

8



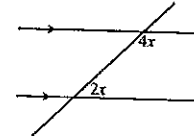
- A 15°
- B 30°
- C 45°
- D 105°

9



- A 15°
- B 25°
- C 30°
- D 60°

10



- A 30°
- B 60°
- C 120°
- D 180°

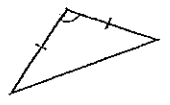
ANSWERS

Name: Chloe

Geometry

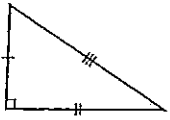
All Multiple Choice

1 This diagram shows a triangle that is:



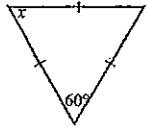
- A obtuse and right angled
- B acute and scalene
- C obtuse and isosceles
- D scalene

2 This diagram shows a triangle that is:



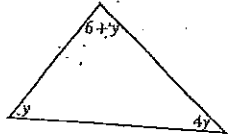
- A acute and scalene
- B obtuse and isosceles
- C scalene
- D right angled and scalene

3 The value of the pronumeral x is:



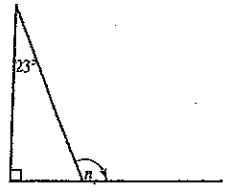
- A 30°
- B 60°
- C 90°
- D 120°

4 The value of the pronumeral y is:



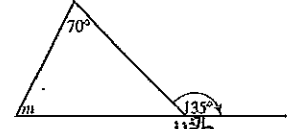
- A 51°
- B 44°
- C 32°
- D 29°

5 The value of the pronumeral n is:



- A 23°
 - B 90°
 - C 113°
 - D 167°
- $180 - 113 = 67$
 $180 - 67$

6 The value of the pronumeral m is:



- A 90°
 - B 70°
 - C 65°
 - D 35°
- $180 - 115 = 65$

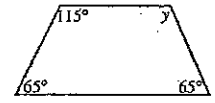
7 A quadrilateral with all sides equal in length is called a:

- A rectangle
- B parallelogram
- C square
- D kite

8 A quadrilateral with two pairs of adjacent sides that are equal is called a:

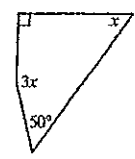
- A parallelogram
- B square
- C kite
- D trapezium

9 The value of the pronumeral y is:



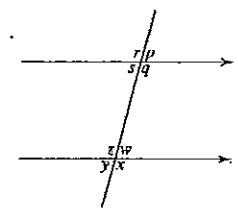
- A 65°
- B 115°
- C 130°
- D 230°

10 The value of the pronumeral x is:



- A 30°
- B 45°
- C 55°
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Questions 11 and 12 refer to the following diagram:



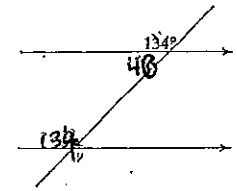
11 State which angle is co-interior to angle s .

- A p
- B w
- C q
- D z

12 The angle which is vertically opposite to r is:

- A p
- B w
- C q
- D z

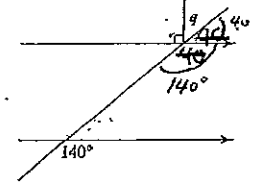
13



The value of the pronumeral w is:

- A 46°
- B 134°
- C 150°
- D 169°

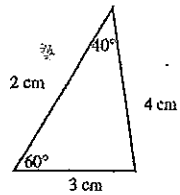
14



The value of the pronumeral q is:

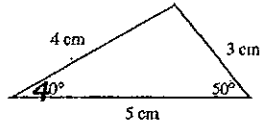
- A 40°
- B 50°
- C 90°
- D 120°

15



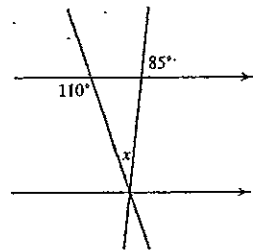
- The shape above is best described as:
- (A) a triangle with angles 60° and 40° and side between them of length 2 cm
 - B a triangle with angles 60° and 60° and side between them of length 4 cm
 - C a triangle with angles 40° and 80° and side between them of length 3 cm
 - D a triangle with angles 80° and 40° and side between them of length 3 cm

16



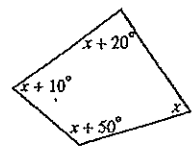
- The shape above is best described as:
- A a triangle with side lengths 3 cm and 5 cm with an angle 40° between them
 - B a triangle with side lengths 4 cm and 3 cm with an angle 50° between them
 - C a triangle with side lengths 5 cm and 5 cm with an angle 50° between them
 - (D) a triangle with side lengths 4 cm and 5 cm with an angle 40° between them.

17



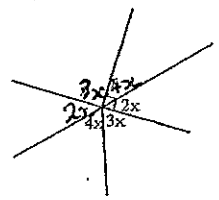
- The value of the pronumeral x is:
- A 70°
 - B 85°
 - C 50°
 - (D) 25°

18



- Which of the following statements is true?
- A $x + 50^\circ = x + 20^\circ$
 - (B) $4x + 80^\circ = 360^\circ$
 - C $x = x + 10^\circ$
 - D $4x = 180^\circ$

19



- The value of the pronumeral x is:
- (A) 20°
 - B 40°
 - C 60°
 - D 80°

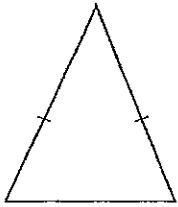
- 20 A rectangle can be best described as:
- (A) A square with uneven sides
 - B A parallelogram with a right angle
 - C A quadrilateral
 - D A rhombus with a right angle.

Geometry

Name: _____

1 Are the following statements true or false?

(a) The triangle is both right angled and scalene.



False ✓

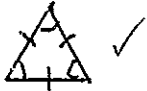
(b) The triangle is both obtuse and isosceles.



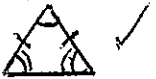
True ✓

2 Draw a triangle that is both:

(a) acute and equilateral

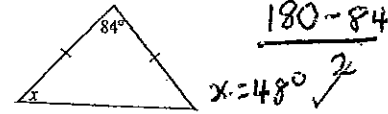


(b) acute and isosceles.



3 Find the value of the pronumeral in each triangle.

(a)



$$180 - 84$$

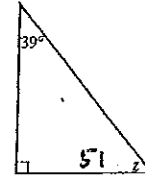
$$x = 48^\circ \checkmark$$

(b)



$$10^\circ \checkmark$$

(c)

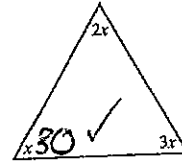


$$90 + 39 = x$$

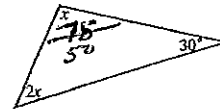
$$190 - x = 51 \checkmark$$

4 Find the value of the pronumeral in each triangle.

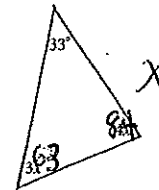
(a)



(b)



(c)



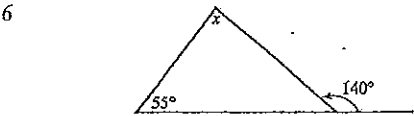
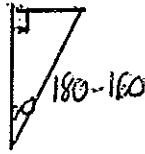
$$7x + 33 = 180$$

$$7x = 147$$

$$x = 21$$

- 5 A lighthouse shines a beam of light on a point on the ground. The light beam makes an angle of 70° with the tower. Find the angle that the beam makes with the ground. Draw a diagram assuming a right-angled triangle.

20° ✓



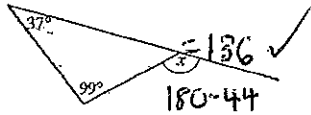
The value of x in the triangle is:

- A 53°
- B 85°
- C 90°
- D 180°

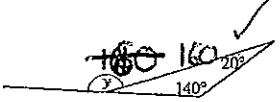
$180 - (55 + 40)$

- 7 Find the value of the exterior angles.

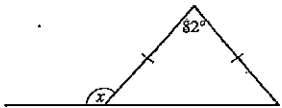
(a)



(b)

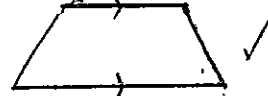


The two sides of a roof meet at an apex angle of 82° . Find the obtuse angle, x , that the roof makes with the ground.



$\frac{180 - 82}{2} = 49$ (for 2 angles)
 $x = 132^\circ$
 131°

- 9 (a) Draw a shape with 4 sides where there is only one pair of parallel sides.

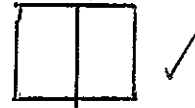


- (b) How would you best describe this shape?

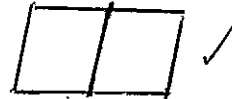
A shape with 1 parallel side and is a ~~parallelogram~~. Trapezium.

- 10 Draw the solution to each of the following.

- (a) With one line divide a square into two rectangles.



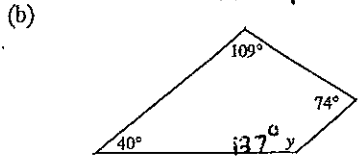
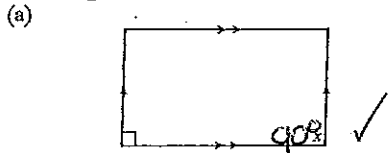
- (b) With one line divide a rhombus into two parallelograms.



Geometry

Name: _____

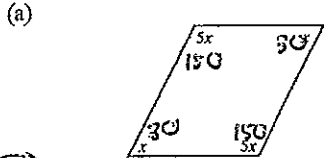
1 Find the value of the pronumeral in each of the following.



$$360 - (109 + 114)$$

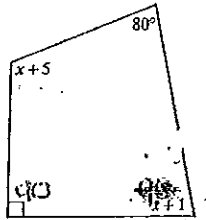
$$y = 137^\circ \checkmark$$

2 Find the value of the pronumeral in each of the following.



$$\frac{360}{12} = 30 \checkmark$$

(b)



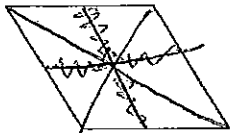
$$2x + 6 + 80 + 90 = 360$$

$$2x = 360 - 176$$

$$= 184$$

$$\underline{x = 92}$$

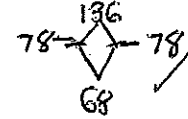
3 Mark any axes of symmetry on this rhombus.



2 axes of symmetry only

4 Amanda built a kite. The angle at the top of the kite is two times larger than the angle at the tail. The angles on the side are 78° .

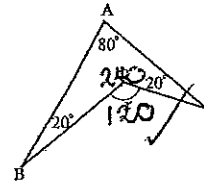
(a) Draw a diagram of Amanda's kite.



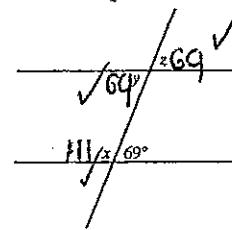
(b) Find the angle at the tail.

$$\underline{68^\circ} \checkmark$$

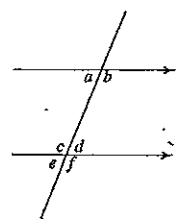
5 Find the size of x in this concave figure.



6 Find the value of the pronumerals.

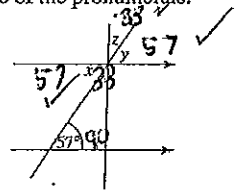


7) Are the following statements true or false?



- (a) Angles a and d are alternate. **T**
- (b) Angles c and f are corresponding. **F**
- (c) Angles b and f are co-interior. **F**

8) Find the value of the pronumerals.



angles that add to 180°

9) Find the supplement of:

- (a) 110° is 70° ✓
- (b) 91° is 89° ✓
- (c) 75° is 105° ✓

10) Find the complement of:

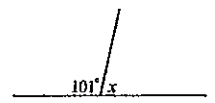
- (a) 5° is 85° ✓
- (b) 24° is 66° ✓
- (c) 58° is 32° ✓

Geometry

Name: _____

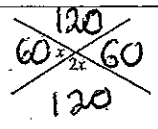
In each of the following, find the size of the pronumeral(s).

1



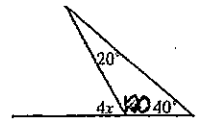
- A 79°
- B 101°
- C 259°
- D 281°

2



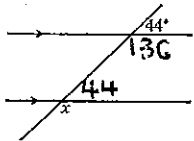
- A 60°
- B 120°
- C 180°
- D 360°

3



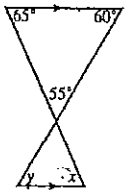
- A 120°
- B 60°
- C 30°
- D 15°

4



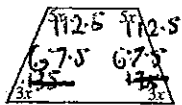
- A 44°
 B 136°
 C 224°
 D 316°

5



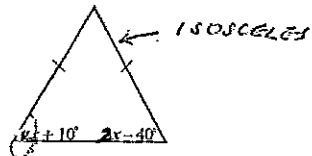
- A $x = 60^\circ, y = 65^\circ$
 B $x = 55^\circ, y = 60^\circ$
 C $x = 65^\circ, y = 60^\circ$
 D $x = 55^\circ, y = 65^\circ$

6



- A 112.5°
 B 45°
 C 67.5°
 D 22.5°

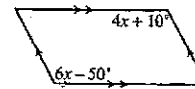
7



$$2x + 10 = 3x - 40$$

- A 10°
 B 40°
 C 50°
 D 60°

8



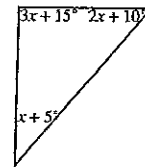
- A 15°
 B 30°
 C 45°
 D 105°

$$6x - 50 = 4x + 10$$

$$\frac{6x - 60}{4} = \frac{4x}{4}$$

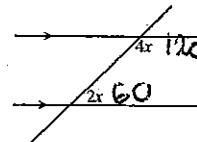
$$= \frac{1}{2} - 10 = x$$

9



- A 15°
 B 25°
 C 30°
 D 60°

10



- A 30°
 B 60°
 C 120°
 D 180°