

# Geometry

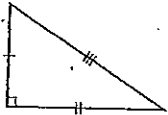
## All Multiple Choice

1 This diagram shows a triangle that is:



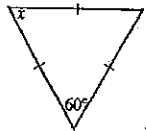
- A obtuse and right angled
- B acute and scalene
- C obtuse and isosceles
- D scalene

2 This diagram shows a triangle that is:



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

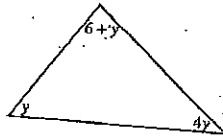
3 The value of the pronumeral  $x$  is:



- A  $30^\circ$
- B  $60^\circ$
- C  $90^\circ$
- D  $120^\circ$

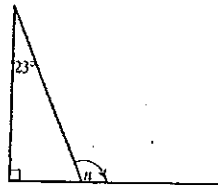
Name: \_\_\_\_\_

4 The value of the pronumeral  $y$  is:



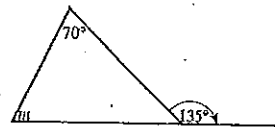
- A  $51^\circ$
- B  $44^\circ$
- C  $32^\circ$
- D  $29^\circ$

5 The value of the pronumeral  $n$  is:



- A  $23^\circ$
- B  $90^\circ$
- C  $113^\circ$
- D  $167^\circ$

6 The value of the pronumeral  $m$  is:



- A  $90^\circ$
- B  $70^\circ$
- C  $65^\circ$
- D  $35^\circ$

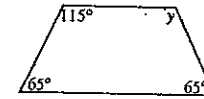
7 A quadrilateral with all sides equal in length is called a:

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

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

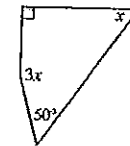
- A parallelogram
- B square
- C kite
- D trapezium

9 The value of the pronumeral  $y$  is:



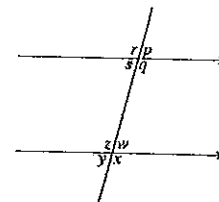
- A  $65^\circ$
- B  $115^\circ$
- C  $130^\circ$
- D  $230^\circ$

10 The value of the pronumeral  $x$  is:



- A  $30^\circ$
- B  $45^\circ$
- C  $55^\circ$
- D  $90^\circ$

Questions 11 and 12 refer to the following diagram:



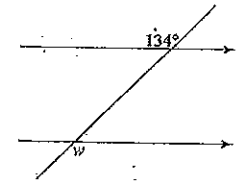
11 State which angle is co-interior to angle  $s$ .

- 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  $z$

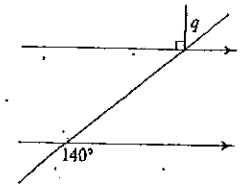
13



The value of the pronumeral  $w$  is:

- A  $46^\circ$
- B  $134^\circ$
- C  $150^\circ$
- D  $169^\circ$

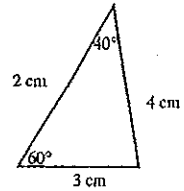
14



The value of the pronumeral  $q$  is:

- A  $40^\circ$
- B  $50^\circ$
- C  $90^\circ$
- D  $120^\circ$

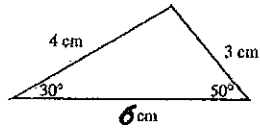
15



The shape above is best described as:

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

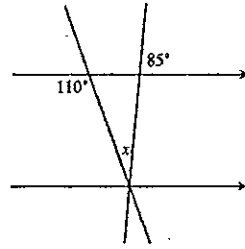
16



The shape above is best described as:

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

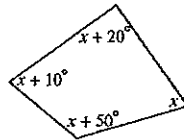
17



The value of the pronumeral  $x$  is:

- A  $70^\circ$
- B  $85^\circ$
- C  $50^\circ$
- D  $25^\circ$

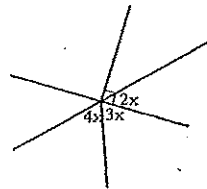
18



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  $20^\circ$
- B  $40^\circ$
- C  $60^\circ$
- D  $80^\circ$

20 A rectangle can be best described as:

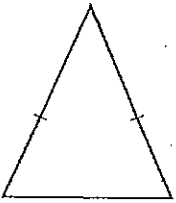
- A A square with uneven sides
- B A parallelogram with a right angle
- C A quadrilateral
- D A rhombus with a right angle.

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.



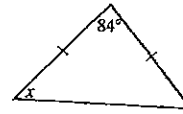
2 Draw a triangle that is both:

(a) acute and equilateral

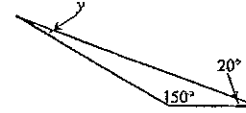
(b) acute and isosceles.

3 Find the value of the pronumeral in each triangle.

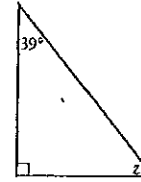
(a)



(b)

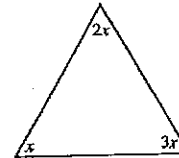


(c)

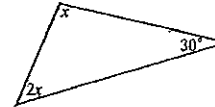


4 Find the value of the pronumeral in each triangle.

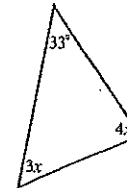
(a)



(b)

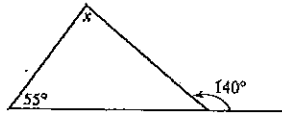


(c)



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

6

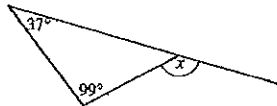


The value of  $x$  in the triangle is:

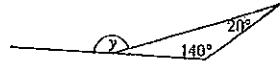
- A  $53^\circ$
- B  $85^\circ$
- C  $90^\circ$
- D  $180^\circ$

- 7 Find the value of the exterior angles.

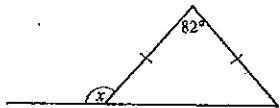
(a)



(b)



8



The two sides of a roof meet at an apex angle of  $82^\circ$ . 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.

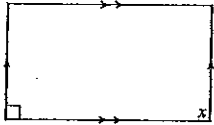
(b) With one line divide a rhombus into two parallelograms.

Geometry

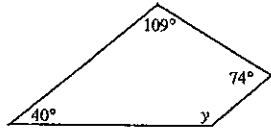
Name: \_\_\_\_\_

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

(a)

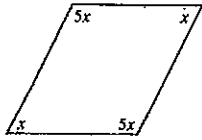


(b)

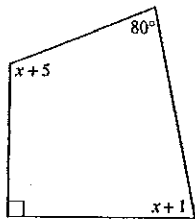


- 2 Find the value of the pronumeral in each of the following.

(a)



(b)



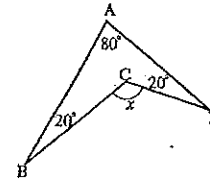
- 3 Mark any axes of symmetry on this rhombus.



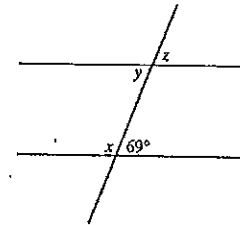
- 4 Amanda built a kite. The angle at the top of the kite is two times larger than the angle at the tail. The angles on the side are  $78^\circ$ .
- (a) Draw a diagram of Amanda's kite.

(b) Find the angle at the tail.

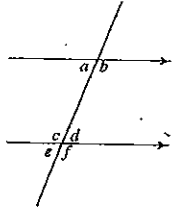
- 5 Find the size of  $x$  in this concave figure.



- 6 Find the value of the pronumerals.

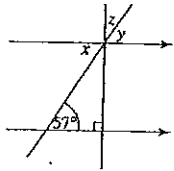


7 Are the following statements true or false?



- (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)  $110^\circ$
- (b)  $91^\circ$
- (c)  $75^\circ$

10 Find the complement of:

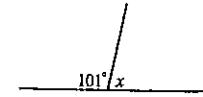
- (a)  $5^\circ$
- (b)  $24^\circ$
- (c)  $58^\circ$

## Geometry

Name: \_\_\_\_\_

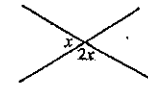
In each of the following, find the size of the pronumeral(s).

1



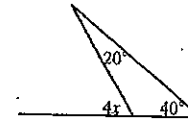
- A  $79^\circ$
- B  $101^\circ$
- C  $259^\circ$
- D  $281^\circ$

2



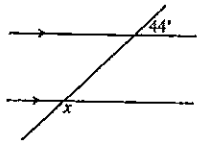
- A  $60^\circ$
- B  $120^\circ$
- C  $180^\circ$
- D  $360^\circ$

3



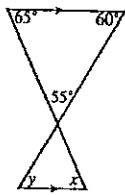
- A  $120^\circ$
- B  $60^\circ$
- C  $30^\circ$
- D  $15^\circ$

4



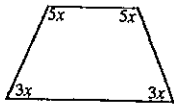
- A  $44^\circ$
- B  $136^\circ$
- C  $224^\circ$
- D  $316^\circ$

5



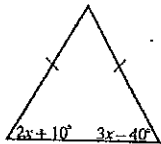
- A  $x = 60^\circ, y = 65^\circ$
- B  $x = 55^\circ, y = 60^\circ$
- C  $x = 65^\circ, y = 60^\circ$
- D  $x = 55^\circ, y = 65^\circ$

6



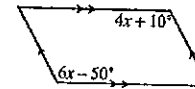
- A  $112.5^\circ$
- B  $45^\circ$
- C  $67.5^\circ$
- D  $22.5^\circ$

7



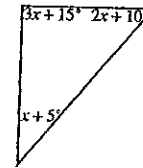
- A  $10^\circ$
- B  $40^\circ$
- C  $50^\circ$
- D  $60^\circ$

8



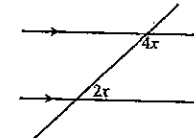
- A  $15^\circ$
- B  $30^\circ$
- C  $45^\circ$
- D  $105^\circ$

9



- A  $15^\circ$
- B  $25^\circ$
- C  $30^\circ$
- D  $60^\circ$

10



- A  $30^\circ$
- B  $60^\circ$
- C  $120^\circ$
- D  $180^\circ$

Geometry

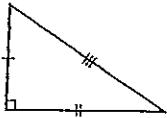
All Multiple Choice

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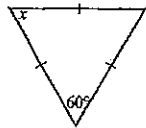
- A obtuse and right angled
- B acute and scalene
- C obtuse and isosceles
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2 This diagram shows a triangle that is:



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

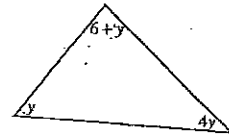
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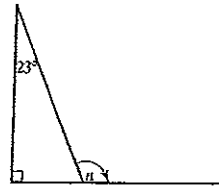
Name: T. \_\_\_\_\_

4 The value of the pronumeral  $y$  is:



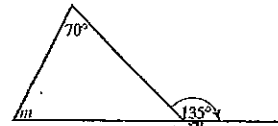
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- B  $44^\circ$
- C  $32^\circ$
- D  $29^\circ$

5 The value of the pronumeral  $n$  is:



- A  $23^\circ$
  - B  $90^\circ$
  - C  $113^\circ$
  - D  $167^\circ$
- $180 - 113 = 67$   
 $180 - 67 = 113$

6 The value of the pronumeral  $m$  is:



- A  $90^\circ$
  - B  $70^\circ$
  - C  $65^\circ$
  - D  $35^\circ$
- $180 - 115 = 65$

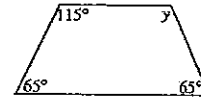
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- A rectangle
- B parallelogram
- C square
- D kite

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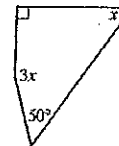
- A parallelogram
- B square
- C kite
- D trapezium

9 The value of the pronumeral  $y$  is:



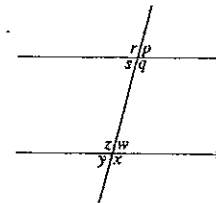
- A  $65^\circ$
- B  $115^\circ$
- C  $130^\circ$
- D  $230^\circ$

10 The value of the pronumeral  $x$  is:



- A  $30^\circ$
- B  $45^\circ$
- C  $55^\circ$
- D  $90^\circ$

Questions 11 and 12 refer to the following diagram:



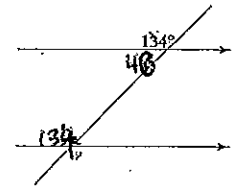
11 State which angle is co-interior to angle  $s$ .

- 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  $z$

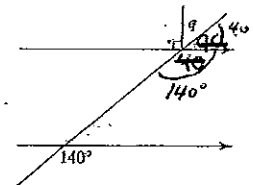
13



The value of the pronumeral  $w$  is:

- A  $46^\circ$
- B  $134^\circ$
- C  $150^\circ$
- D  $169^\circ$

14



The value of the pronumeral  $q$  is:

- A  $40^\circ$
- B  $50^\circ$
- C  $90^\circ$
- D  $120^\circ$

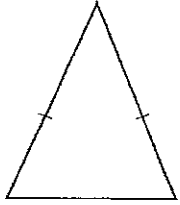


Geometry

Name: \_\_\_\_\_

1 Are the following statements true or false?

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



False ✓

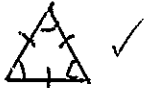
(b) The triangle is both obtuse and isosceles.



True ✓

2 Draw a triangle that is both:

(a) acute and equilateral



✓

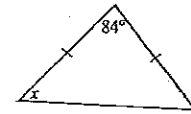
(b) acute and isosceles.



✓

3 Find the value of the pronumeral in each triangle.

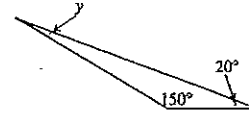
(a)



$$180 - 84$$

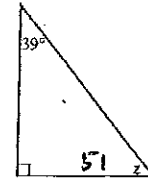
$$x = 48^\circ \checkmark$$

(b)



$$10^\circ \checkmark$$

(c)

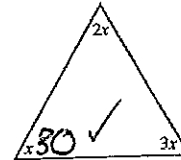


$$90 + 39 = x$$

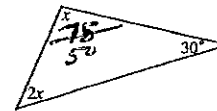
$$180 - x = 51 \checkmark$$

4 Find the value of the pronumeral in each triangle.

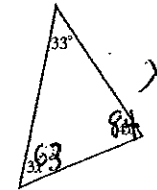
(a)



(b)



(c)



$$7x + 33 = 180$$

$$7x = 147$$

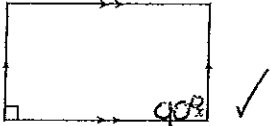
$$x = 21$$

Geometry

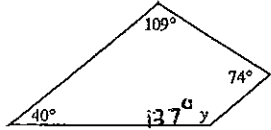
Name: \_\_\_\_\_

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

(a)



(b)

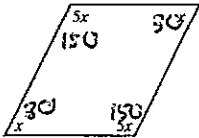


$$360 - (109 + 114)$$

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

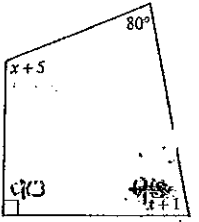
2 Find the value of the pronumeral in each of the following.

(a)



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

(b)



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

$$2x = 360 - 176$$

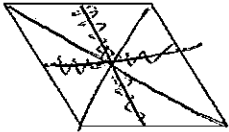
$$= 184$$

$$x = 92$$

$$90 + 80 = 170$$

$$\frac{190}{2} = 95$$

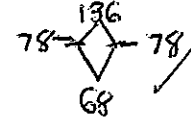
3 Mark any axes of symmetry on this rhombus.



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  $78^\circ$ .

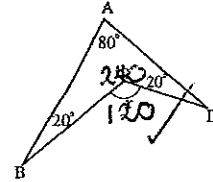
(a) Draw a diagram of Amanda's kite.



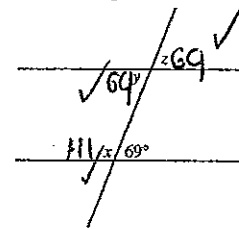
(b) Find the angle at the tail.

$$68^\circ \checkmark$$

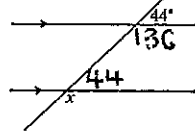
5 Find the size of  $x$  in this concave figure.



6 Find the value of the pronumerals.

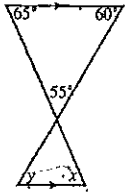


4



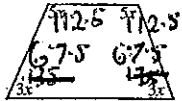
- A  $44^\circ$
- B  $136^\circ$
- C  $224^\circ$
- D  $316^\circ$

5



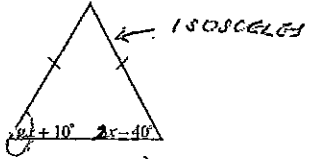
- A  $x = 60^\circ, y = 65^\circ$
- B  $x = 55^\circ, y = 60^\circ$
- C  $x = 65^\circ, y = 60^\circ$
- D  $x = 55^\circ, y = 65^\circ$

6



- A  $112.5^\circ$
- B  $45^\circ$
- C  $67.5^\circ$
- D  $22.5^\circ$

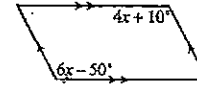
7



$$2x + 10^\circ = 3x - 40^\circ$$

- A  $10^\circ$
- B  $40^\circ$
- C  $50^\circ$
- D  $60^\circ$

8



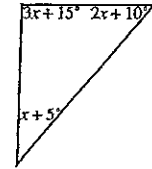
$$6x - 50 = 4x + 10$$

$$\frac{6x - 4x}{4} = \frac{4x + 10 - 50}{4}$$

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

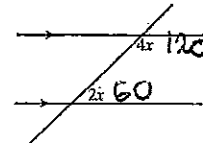
- A  $15^\circ$
- B  $30^\circ$
- C  $45^\circ$
- D  $105^\circ$

9



- A  $15^\circ$
- B  $25^\circ$
- C  $30^\circ$
- D  $60^\circ$

10



- A  $30^\circ$
- B  $60^\circ$
- C  $120^\circ$
- D  $180^\circ$