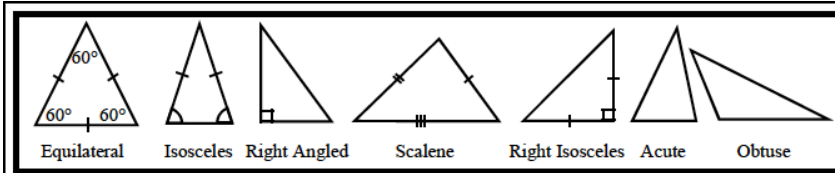


Angles in triangles & quadrilaterals



Find the missing angle, then classify (name the type of) the triangle.

Example  $x = 180^\circ - 62^\circ - 28^\circ$   
 $x = 90^\circ$

Type: **Right angled triangle**

1  $y = 180^\circ - 32^\circ - 16^\circ$   
 $y = 132^\circ$

Type: **Obtuse scalene triangle**

2  $a = 180^\circ - 72^\circ - 36^\circ$   
 $a = 72^\circ$

Type: **Acute Isosceles Triangle**

3  $b = 180^\circ - 90^\circ - 45^\circ$   
 $b = 45^\circ$

Type: **Right Isosceles Triangle**

4  $k = 180^\circ - 60^\circ - 60^\circ$   
 $k = 60^\circ$

Type: **Equilateral triangle**

5  $m = 180^\circ - 39^\circ - 53^\circ$   
 $m = 88^\circ$

Type: **Acute scalene triangle**

6  $q = 180^\circ - 124^\circ - 28^\circ$   
 $q = 28^\circ$

Type: **Obtuse isosceles triangle**

7  $h = 180^\circ - 24^\circ - 66^\circ$   
 $h = 90^\circ$

Type: **Right angled triangle**

Use the same method to solve, identify the type of triangle formed. Use 'x ='

8 A triangle has angles  $23^\circ$  and  $46^\circ$ , find the other angle

$x = 180^\circ - 23^\circ - 46^\circ$   
 $x = 111^\circ$

Type: **Obtuse scalene triangle**

9 A triangle has angles  $56^\circ$  and  $68^\circ$ , find the other angle

$x = 180^\circ - 56^\circ - 68^\circ$   
 $x = 56^\circ$

Type: **Acute isosceles triangle**

10 Two identical angles in a triangle total  $120^\circ$ , find the other angle

$x = 180^\circ - 120^\circ$   
 $x = 60^\circ$

Type: **Equilateral triangle**

Use the side lengths to help you choose a method to find the value of the letters

11

$x = 60^\circ$

12

$u = 23^\circ$

13

$a = 180^\circ - 64^\circ - 64^\circ$   
 $a = 52^\circ$

14

$d = 180^\circ - 45^\circ - 45^\circ$   
 $d = 90^\circ$

15

$2x = 60^\circ$   
 $x = 30^\circ$

16

$4w = 84^\circ$   
 $w = 21^\circ$

These are harder

17

$4c = 60^\circ$   
 $c = 15^\circ$

$5t = 60^\circ$   
 $t = 12^\circ$

$3n = 60^\circ$   
 $n = 20^\circ$

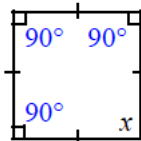
18

$9v = 180^\circ$   
 $v = 20^\circ$

Find the missing angle in these quadrilaterals

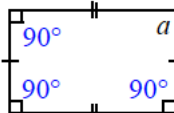
1  $x = 360^\circ - 90^\circ - 90^\circ - 90^\circ$

$x = 90^\circ$



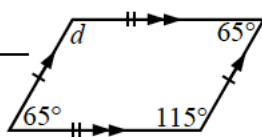
2  $a = 360^\circ - 90^\circ - 90^\circ - 90^\circ$

$a = 90^\circ$



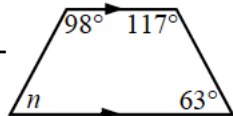
3  $d = 360^\circ - 65^\circ - 115^\circ - 65^\circ$

$d = 115^\circ$



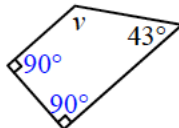
4  $n = 360^\circ - 98^\circ - 117^\circ - 63^\circ$

$n = 82^\circ$



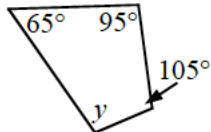
5  $v = 360^\circ - 43^\circ - 90^\circ - 90^\circ$

$v = 137^\circ$



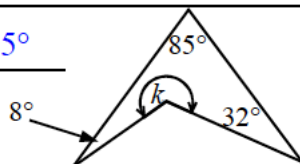
6  $y = 360^\circ - 105^\circ - 65^\circ - 95^\circ$

$y = 95^\circ$



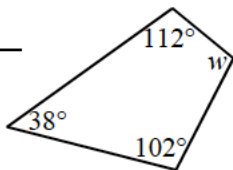
7  $k = 360^\circ - 8^\circ - 32^\circ - 65^\circ$

$k = 255^\circ$



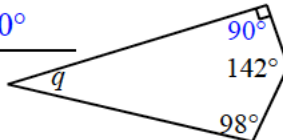
8  $w = 360^\circ - 112^\circ - 38^\circ - 102^\circ$

$w = 108^\circ$



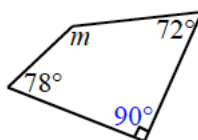
9  $q = 360^\circ - 90^\circ - 142^\circ - 98^\circ$

$q = 30^\circ$



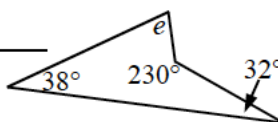
10  $m = 360^\circ - 78^\circ - 90^\circ - 72^\circ$

$m = 120^\circ$



11  $e = 360^\circ - 38^\circ - 32^\circ - 230^\circ$

$e = 60^\circ$



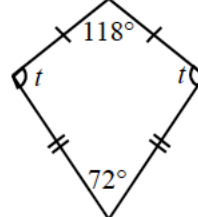
These have 2 unknown angles



12  $2t = 360^\circ - 118^\circ - 72^\circ$

$2t = 170^\circ$

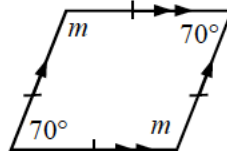
$t = 85^\circ$



13  $2m = 360^\circ - 70^\circ - 70^\circ$

$2m = 220^\circ$

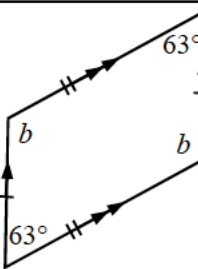
$m = 110^\circ$



14  $2b = 360^\circ - 63^\circ - 63^\circ$

$2b = 234^\circ$

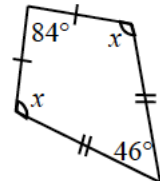
$b = 117^\circ$



15  $2x = 360^\circ - 84^\circ - 46^\circ$

$2x = 230^\circ$

$x = 115^\circ$

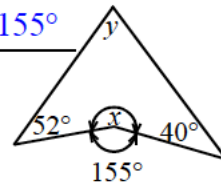


Convert the exterior angles to interior angles to find x then solve for y.



16  $x = 360^\circ - 155^\circ$

$x = 205^\circ$

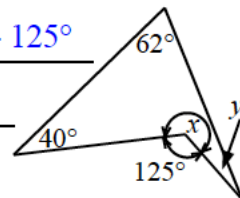


$y = 360^\circ - 205^\circ - 52^\circ - 40^\circ$

$y = 63^\circ$

17  $x = 360^\circ - 125^\circ$

$x = 235^\circ$

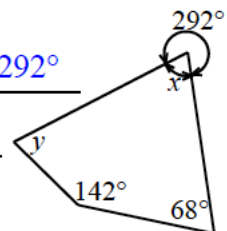


$y = 360^\circ - 235^\circ - 40^\circ - 62^\circ$

$y = 23^\circ$

18  $x = 360^\circ - 292^\circ$

$x = 68^\circ$

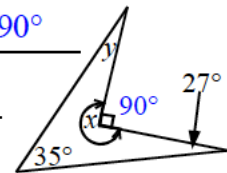


$y = 360^\circ - 68^\circ - 68^\circ - 142^\circ$

$y = 82^\circ$

19  $x = 360^\circ - 90^\circ$

$x = 270^\circ$



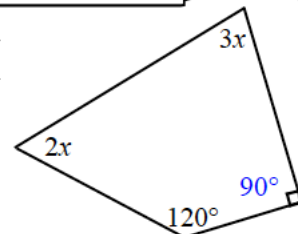
$y = 360^\circ - 270^\circ - 27^\circ - 35^\circ$

$y = 28^\circ$

Find the 2 angles



20



$5x = 360^\circ - 120^\circ - 90^\circ$

$5x = 150^\circ$

$x = 30^\circ$

$2x = 60^\circ$

$3x = 90^\circ$