

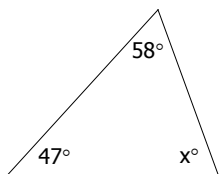
Worksheet Triangle Sum and Exterior angle Theorem

Name _____

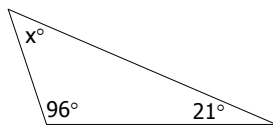
Period _____

I. Find the value of "x".

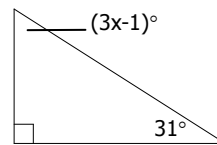
1) $x =$ _____



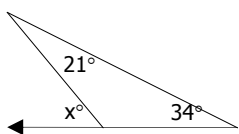
2) $x =$ _____



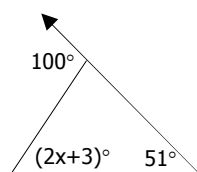
3) $x =$ _____



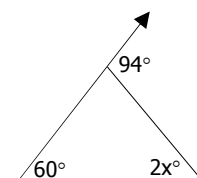
4) $x =$ _____



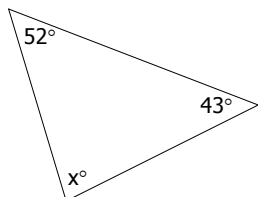
5) $x =$ _____



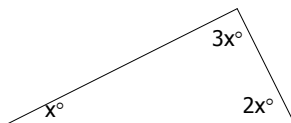
6) $x =$ _____



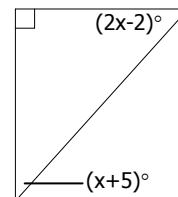
7) $x =$ _____



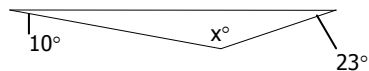
8) $x =$ _____



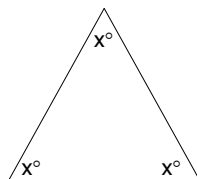
9) $x =$ _____



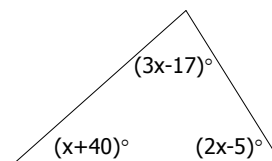
10) $x =$ _____



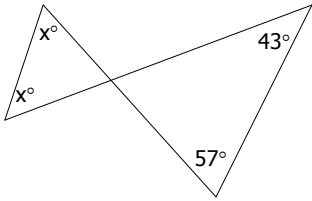
11) $x =$ _____



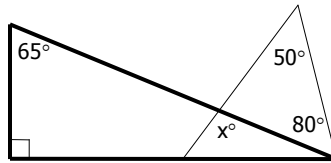
12) $x =$ _____



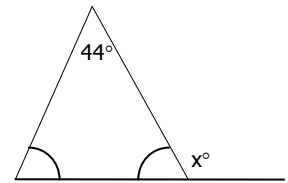
13) $x =$ _____



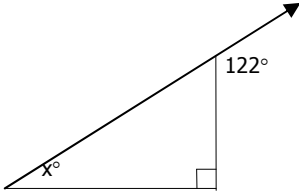
14) $x =$ _____



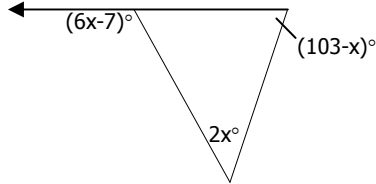
15) $x =$ _____



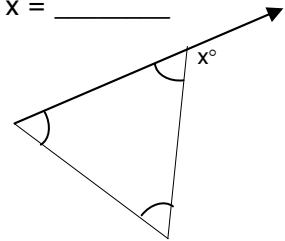
16) $x =$ _____



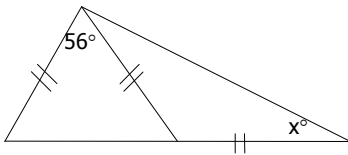
17) $x =$ _____



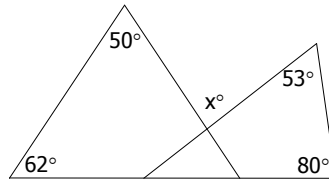
18) $x =$ _____



19) $x =$ _____



20) $x =$ _____



II. Find the measure of each angle.

21) $\angle 1$

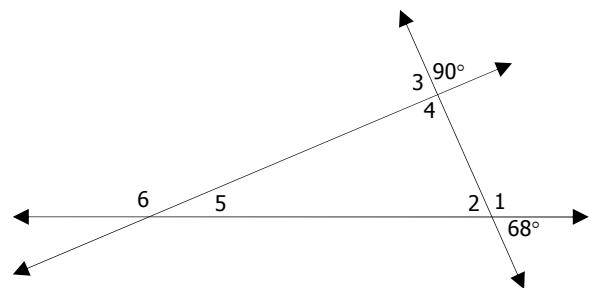
22) $\angle 2$

23) $\angle 3$

24) $\angle 4$

25) $\angle 5$

26) $\angle 6$

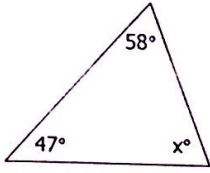


Worksheet Triangle Sum and Exterior angle Theorem

Name Key Period _____

I. Find the value of "x".

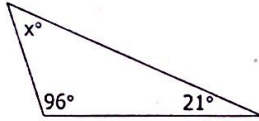
1) $x =$ _____



$$58 + 47 + x = 180$$

$$x = 75$$

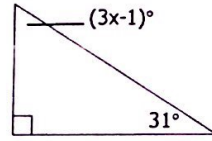
2) $x =$ _____



$$96 + 21 + x = 180$$

$$x = 63$$

3) $x =$ _____



$$(3x-1) + 31 + 90 = 180$$

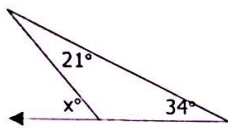
or

$$(3x-1) + 31 = 90$$

$$3x = 69$$

$$x = 23$$

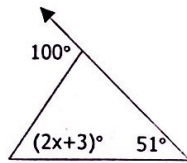
4) $x =$ _____



$$21 + 34 = x$$

$$x = 55$$

5) $x =$ _____



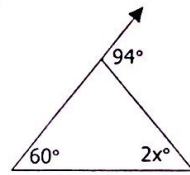
$$2x + 3 + 51 = 100$$

$$2x + 54 = 100$$

$$2x = 46$$

$$x = 23$$

6) $x =$ _____

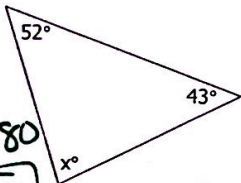


$$94 = 2x + 60$$

$$34 = 2x$$

$$x = 17$$

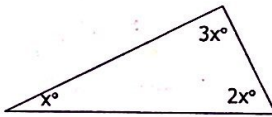
7) $x =$ _____



$$52 + 43 + x = 180$$

$$x = 85$$

8) $x =$ _____

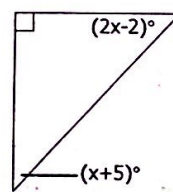


$$x + 3x + 2x = 180$$

$$6x = 180$$

$$x = 30$$

9) $x =$ _____



$$(2x-2) + (x+5) + 90 = 180$$

or

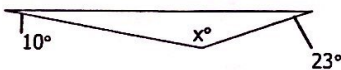
$$(2x-2) + (x+5) = 90$$

$$3x + 3 = 90$$

$$3x = 87$$

$$x = 29$$

10) $x =$ _____

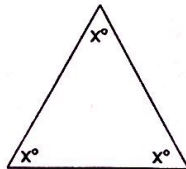


$$10 + x + 23 = 180$$

$$x + 33 = 180$$

$$x = 147$$

11) $x =$ _____

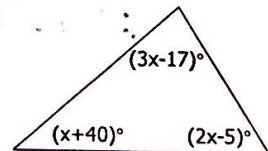


$$x + x + x = 180$$

$$3x = 180$$

$$x = 60$$

12) $x =$ _____



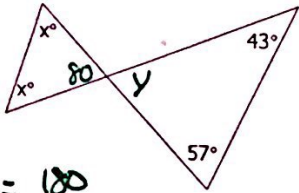
$$(3x-17) + (x+40) + (2x-5) = 180$$

$$6x + 18 = 180$$

$$6x = 162$$

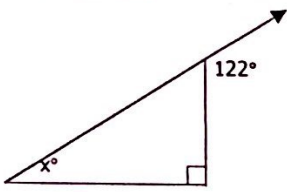
$$x = 27$$

13) $x =$ _____



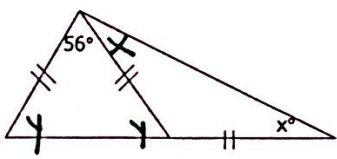
$y + 43 + 57 = 180$
 $y = 80$

$x + x + 80 = 180$
 $2x = 100$
 $x = 50$
 16) $x =$ _____



$x + 90 = 122$
 $x = 32$

19) $x =$ _____

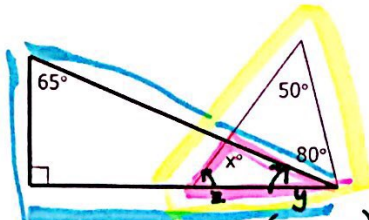


$y + y + 56 = 180$
 $2y + 56 = 180$
 $2y = 124$
 $y = 62$

$x + x = y$
 $2x = 62$
 $x = 31$

II. Find the measure of each angle.

14) $x =$ _____

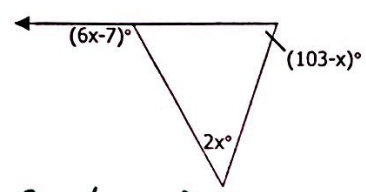


$60 + 90 + y = 180$
 $y = 30$

$x + y + z = 180$
 $x + 30 + z = 180$
 $x + z = 150$

$(30 + 80) + 50 + z = 180$
 $160 + z = 180$
 $z = 20$

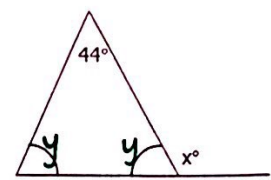
17) $x =$ _____



$6x - 7 = (103 - x) + 2x$
 $6x - 7 = 103 + x$
 $5x - 7 = 103$
 $5x = 110$
 $x = 22$

20) $x =$ _____

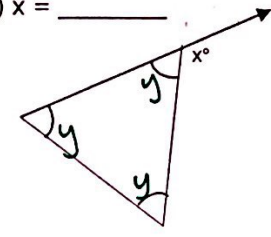
15) $x =$ _____



$y + y + 44 = 180$
 $2y = 136$
 $y = 68$

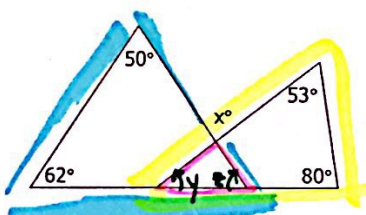
$x = 44 + y$
 $x = 44 + 68$
 $x = 112$

18) $x =$ _____



$y + y + y = 180$
 $3y = 180$
 $y = 60$

$y + y = x$
 $2y = x$
 $2(60) = x$
 $x = 120$



$62 + 50 + z = 180$
 $z = 68$

$53 + 80 + y = 180$
 $y = 47$

$x + y + z = 180$
 $x + 47 + 68 = 180$
 $x + 115 = 180$
 $x = 65$

21) $\angle 1$
 $180 - 68 = 112$

22) $\angle 2$
 68

23) $\angle 3$
 $180 - 90 = 90$

24) $\angle 4$
 90

25) $\angle 5$
 $(\angle 5) + 68 + 90 = 180$
 $\angle 5 = 22$

26) $\angle 6$
 $180 - 22 = 158$

