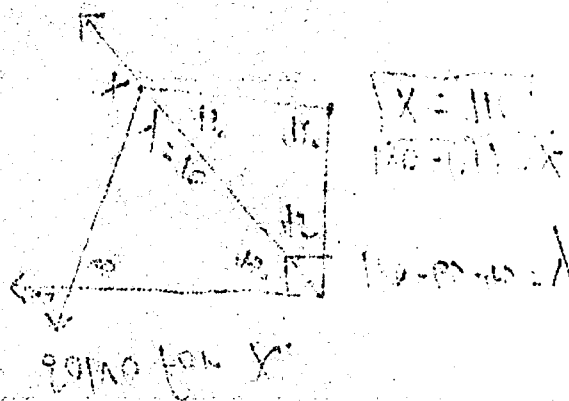


$$Y = 10 - X$$

$$Y = 10 - X$$

$$(10 - X) + 10 = 10 - X + 10$$

$$20 - X = 10 - X$$

$$Y = 10 - X$$

$$(10 - X) + (10 - X) + 10 = 10$$

$$20 - 2X + 10 = 10$$

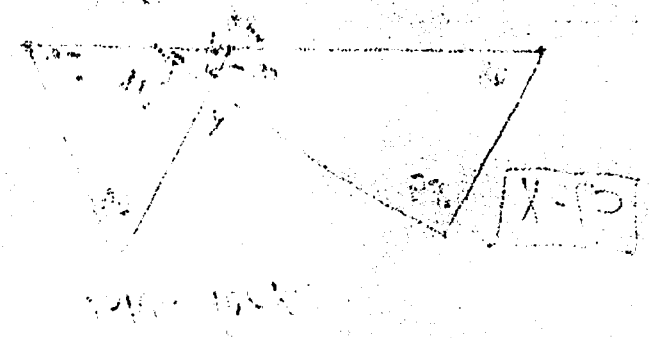
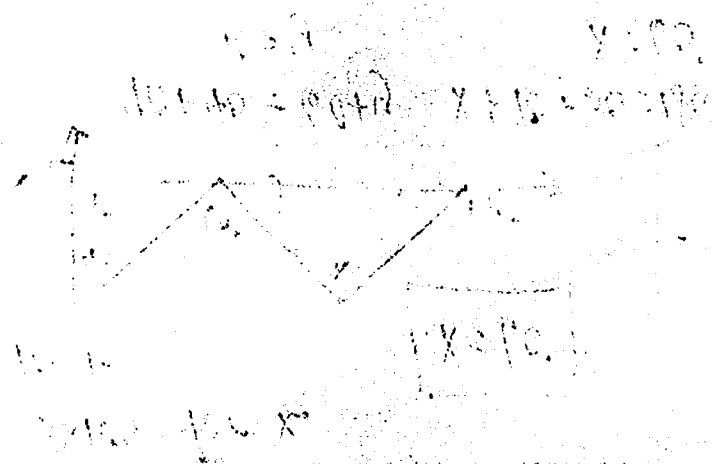
$$30 - 2X = 10$$

$$Y = 10 - X$$

$$(10 - X) + (10 - X) + 10 = 10$$

$$20 - 2X + 10 = 10$$

$$30 - 2X = 10$$



$$Y = 10 - X$$

$$Y = 10 - X$$

$$(10 - X) + 10 = 10 - X + 10$$

$$20 - X = 10 - X$$

$$Y = 10 - X$$

$$(10 - X) + (10 - X) + 10 = 10$$

$$20 - 2X + 10 = 10$$

$$30 - 2X = 10$$

$$Y = 10 - X$$

$$(10 - X) + (10 - X) + 10 = 10$$

$$20 - 2X + 10 = 10$$

$$30 - 2X = 10$$

11 solve for x.

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

$$x = 27$$

13 Find $m\angle ABC$

$$(8+3x) + (13x+6) + 70 = 180$$

$$x = 6$$

$$m\angle ABC = 26^\circ$$

14 Find $m\angle ABC$

$$51 + (x+89) + (x+54) = 180$$

$$x = -7$$

$$m\angle ABC = 47^\circ$$

16 Find $m\angle ACB$

$$2(2x+4) + 140 = 180$$

$$x = 8$$

$$m\angle ACB = 20^\circ$$

$$\frac{m\angle ACB}{2} = \frac{180-140}{2}$$

17 solve for x.

$$y = 25^\circ$$

$$z = 50^\circ$$

$$x = 105^\circ$$

18 solve for x.

$$x = 65^\circ$$

19 solve for x.

$$y = 54 - 45 = 9$$

$$x = (y) - 180$$

$$x = 110^\circ$$

$$90 + 40 = 60 + y$$

$$70 = y$$

$$x = 60$$

$$90 + 40 + x + 70 + 50 = 180$$

$$x = 60^\circ$$

20 solve for x.

Exterior Angle and Triangle Sum
Theorems Task Cards

Name Key

Show all work to solve the problems.

1 solve for x: $6 + 25x = 44 + (18x - 3)$ $\boxed{x = 5}$	2 solve for x: $12x + 14 = (1 + 5x) + 76^\circ$ $\boxed{x = 9}$
3 solve for x: $12x - 3 = (5x + 7) + 46$ $\boxed{x = 8}$	4 solve for x: $22x + 1 = (14x + 12) + 45$ $\boxed{x = 7}$
5 Find $m\angle ABC$. $98 = (6x + 8) + 5x + 2$ $\boxed{x = 8}$ $\boxed{m\angle ABC = 42^\circ}$	6 Find $m\angle ABC$ $80 = (19x + 2) + (-2 + 21x)$ $\boxed{x = 2}$ $\boxed{m\angle ABC = 40^\circ}$
7 Find $m\angle CAB$. $110^\circ = (2 + 6x) + 12x$ $x = 6$ $\boxed{m\angle CAB = 38^\circ}$	8 Find $m\angle ABC$ $13x - 5 = (2x + 8) + 42$ $x = 5$ $\boxed{m\angle ABC = 18^\circ}$
9 solve for x. $x + 3x + (x + 15) = 180$ $\boxed{x = 33}$	10 solve for x. $x + (x + 38) + (x + 55) = 180$ $\boxed{x = 29}$