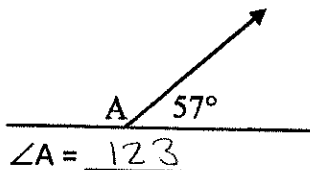


Review for mini test

Name Key

- Calculate the missing measure in each problem.
- Justify and explain your reasoning

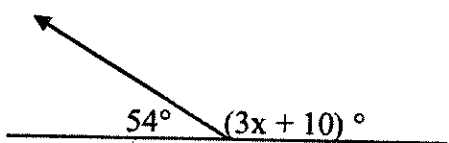
a)



Calculate: $180 - 57 = 123$

Justify: Supplementary angles

b)



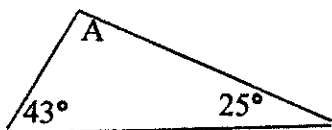
Calculate: $180 = 54 + 3x + 10$

$180 = 3x + 64$

$\frac{116}{3} = \frac{3x}{3} \quad x = \underline{38.66}$

Justify: Supplementary

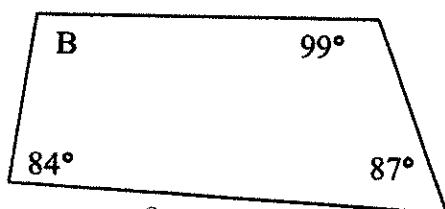
c)



Calculate: $180 - 43 - 25 = 112$

Justify: Sum Theorem

d)



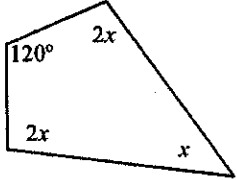
Calculate: $360 - 99 - 87 - 81 = 90$

Justify: Sum Theorem

For each diagram:

- Write and solve an equation that will help you solve for x .
- Justify your equation with a conjecture or theorem.
- Use x to calculate the angle measures.

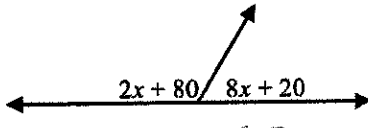
Example:



$2x + 2x + x + 120 = 360$ because the angles in a quadrilateral add up to 360° .

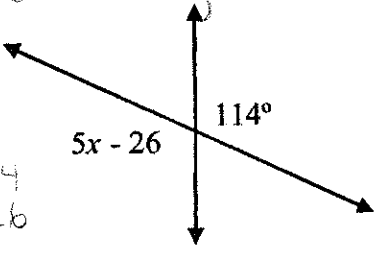
Now I would use my algebra skills to solve for x .

3. Supplementary angles = 180



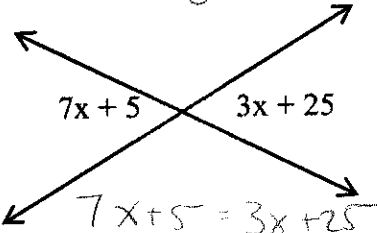
$2x + 80 + 8x + 20 = 180$
 $10x + 100 = 180$
 $-100 \quad -100$
 $10x = 80$
 $\frac{10x}{10} = \frac{80}{10}$
 $x = 8$

1. Vertical angles are equal



$5x - 26 = 114$
 $+26 \quad +26$
 $5x = 140$
 $\frac{5x}{5} = \frac{140}{5}$
 $x = 28$

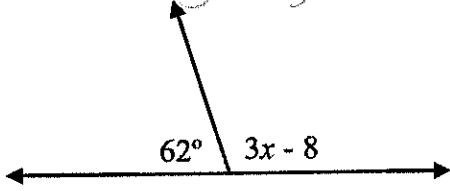
4. Vertical angles are equal



$7x + 5 = 3x + 25$
 $-3x \quad -3x$
 $4x = 20$
 $\frac{4x}{4} = \frac{20}{4}$
 $x = 5$

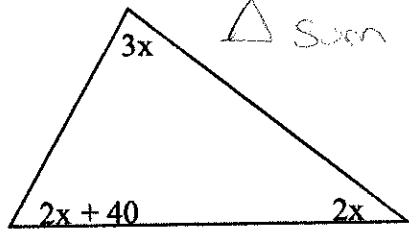
Supplementary angles = 180

2.



$3x - 8 + 62 = 180$
 $3x + 54 = 180$
 $-54 \quad -54$
 $3x = 126$
 $\frac{3x}{3} = \frac{126}{3}$
 $x = 42$

5. \triangle Sum Theorem

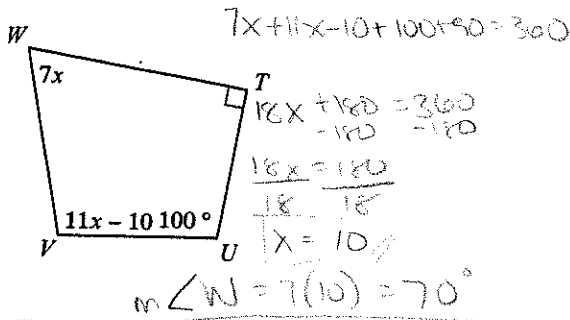


$3x + 2x + 2x + 40 = 180$
 $7x + 40 = 180$
 $-40 \quad -40$
 $7x = 140$
 $\frac{7x}{7} = \frac{140}{7}$
 $x = 20$

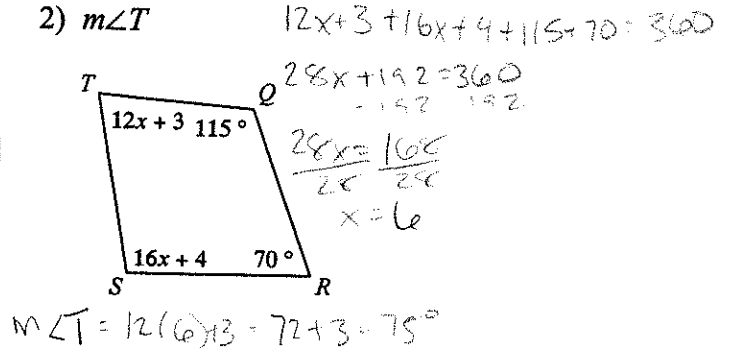
Assignment

Find the measure of each angle indicated.

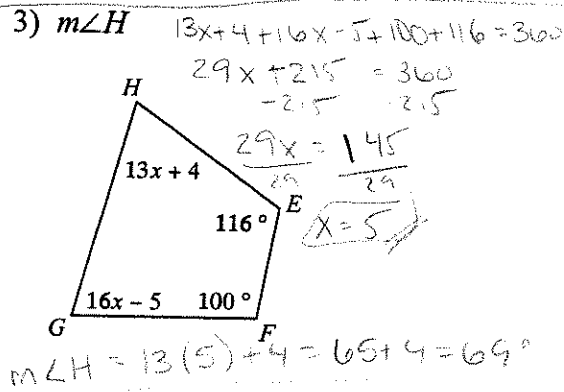
1) $m\angle W$



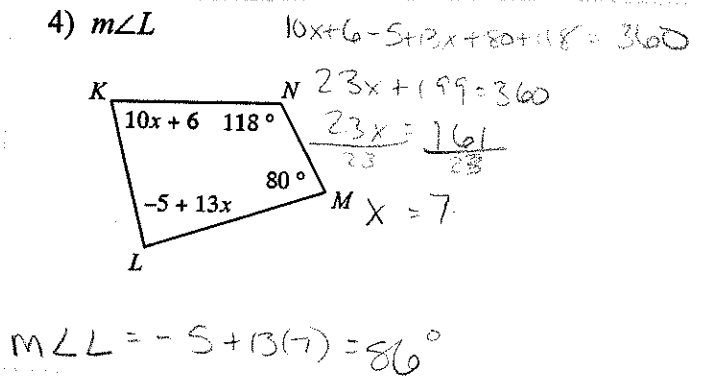
2) $m\angle T$



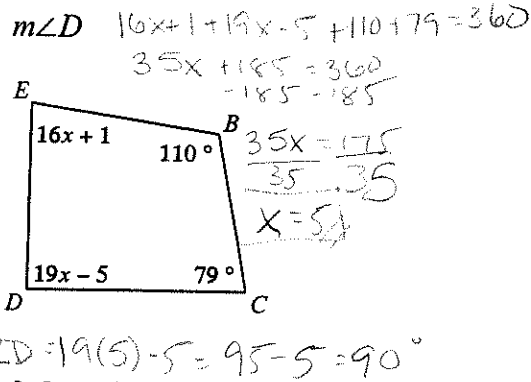
3) $m\angle H$



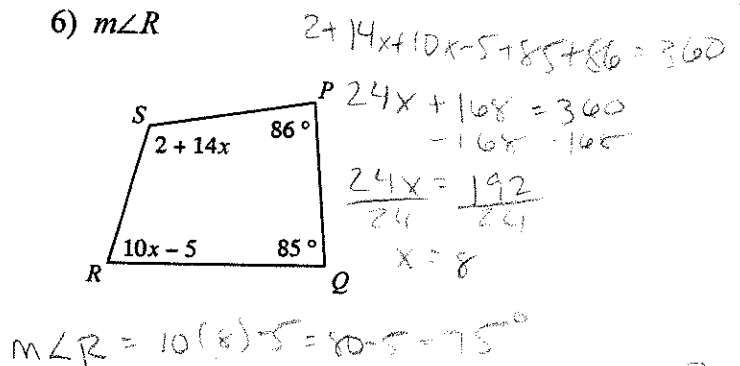
4) $m\angle L$



5) $m\angle D$

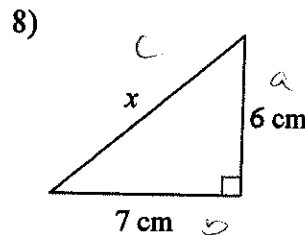
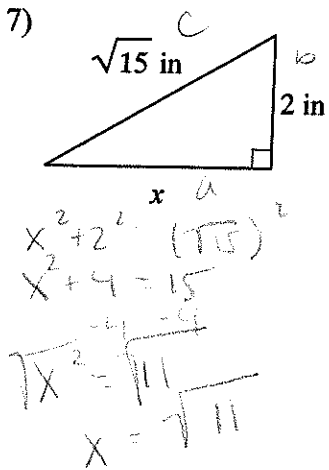


6) $m\angle R$

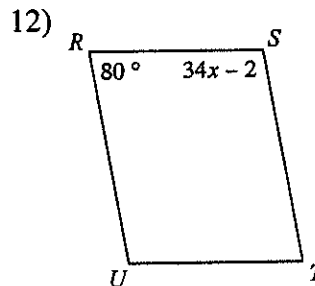
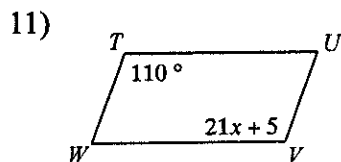
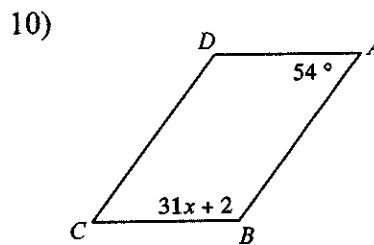
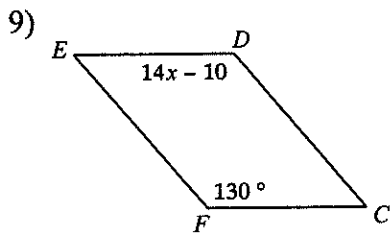


$m\angle D = 19(5) - 5 = 95 - 5 = 90^\circ$

Find the missing side of each triangle. Leave your answers in simplest radical form. $a^2 + b^2 = c^2$



Solve for x . Each figure is a parallelogram.



$$\textcircled{9} \quad 14x - 10 = 130$$

$$\quad +10 \quad +10$$

$$\frac{14x}{14} = \frac{140}{14}$$

$$\boxed{x = 10}$$

$$\textcircled{10} \quad 54 + 31x + 2 = 180$$

$$31x + 56 = 180$$

$$\quad -56 \quad -56$$

$$\frac{31x}{31} = \frac{124}{31}$$

$$\boxed{x = 4}$$

$$\textcircled{11} \quad 21x + 5 = 110$$

$$\quad -5 \quad -5$$

$$\frac{21x}{21} = \frac{105}{21}$$

$$\boxed{x = 5}$$

$$\textcircled{12} \quad 34x - 2 + 80 = 180$$

$$34x + 78 = 180$$

$$\quad -78 \quad -78$$

$$\frac{34x}{34} = \frac{102}{34}$$

$$\boxed{x = 3}$$