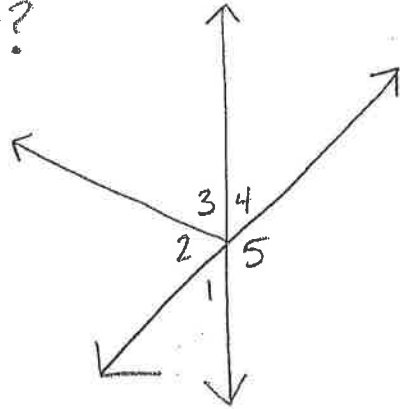


NAME: \_\_\_\_\_

BLK: \_\_\_\_\_

Use the figure to answer #1-3.

① Which angles form a linear pair?

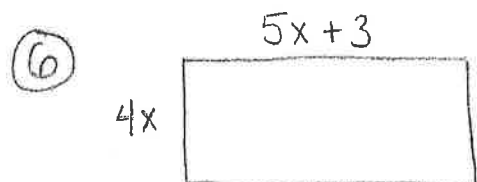


② If  $m\angle 2 = 65^\circ$  and  $m\angle 4 = 50^\circ$ ,  
what is  $m\angle 3$ ?

③ Name two angles that are adjacent,  
but do NOT form a linear pair?

④ B is between  $\overline{AC}$ .  $AB = 2x + 5$ ,  $BC = 3x$ ,  $AC = 25$ .  
Draw a picture. Find AB.

⑤ A circle has a diameter of 8. Find the exact  
Circumference AND Area. (exact = leave in terms  
of  $\pi$ )



Find the perimeter AND the Area.

⑦ The Area of a triangle is  $10 \text{ cm}^2$ . If the base is  $5 \text{ cm}$ , what is the height?

⑧  $\vec{TX}$  bisects  $\angle RTS$ .  $m\angle RTX = 2x + 15$ ,  $m\angle XTS = 7x - 5$ .  
Find  $m\angle RTX$ . [Draw the figure]

⑨  $Y$  is the midpoint of  $\overline{XZ}$ . If  $XY = 3x + 20$ ,  $YZ = 5x + 2$   
Find  $m\angle XYZ$ . [Draw the figure]

⑩ If  $m\angle P$  is  $(5x - 2)$ , what is the complement?

NAME: \_\_\_\_\_

KEY

BLK: \_\_\_\_\_

Use the figure to answer #1-3.

- ① Which angles form a linear pair?

$\angle 1 + \angle 5$

$\angle 4 + \angle 5$

- ② If
- $m\angle 2 = 65^\circ$
- and
- $m\angle 4 = 50^\circ$
- ,
- 
- what is
- $m\angle 3$
- ?

$m\angle 2 + m\angle 3 + m\angle 4 = 180^\circ$

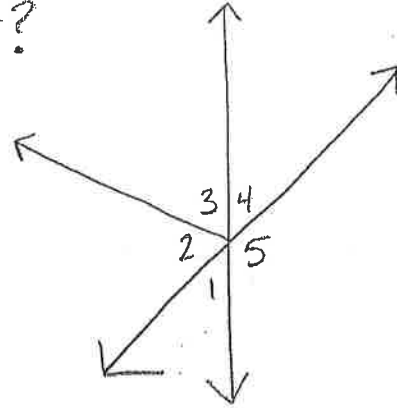
$65^\circ + m\angle 3 + 50^\circ = 180^\circ$

$m\angle 3 + 115 = 180$

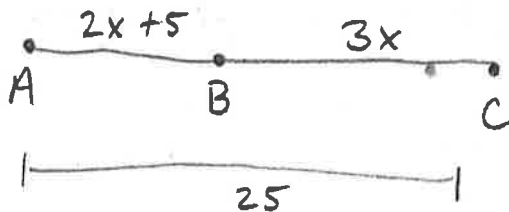
$-115 \quad -115$

$m\angle 3 = 65^\circ$

- ③ Name two angles that are adjacent,
- 
- but DO NOT form a linear pair?
- 
- $\angle 1 + \angle 2$
- ,
- $\angle 2 + \angle 3$
- ,
- $\angle 3 + \angle 4$



- ④ B is between
- $\overline{AC}$
- .
- $AB = 2x + 5$
- ,
- $BC = 3x$
- ,
- $AC = 25$
- .
- 
- Draw a picture. Find AB.



$2x + 5 + 3x = 25$

$5x + 5 = 25$

$$\begin{array}{r} -5 \quad -5 \\ \hline 5x = 20 \\ \hline 5 \quad 5 \end{array}$$

$x = 4$

$AB = 2(4) + 5$

$AB = 8 + 5$

$AB = 13$

- ⑤ A circle has a diameter of 8. Find the
- exact
- 
- Circumference
- AND
- Area. (exact = leave in terms
- 
- of
- $\pi$
- )

$C = \pi d$

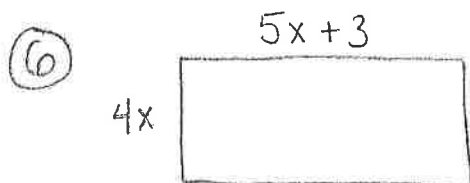
$C = \pi(8)$

$C = 8\pi$

$A = \pi r^2$

$A = \pi(4)^2$

$A = 16\pi$



Find the perimeter AND the Area.

$$\begin{aligned} \text{Perimeter} &= 2(4x) + 2(5x+3) \\ &= 8x + 10x + 6 \\ &= \boxed{18x + 6} \end{aligned}$$

$$\begin{aligned} \text{Area} &= 4x(5x+3) \\ &= \boxed{20x^2 + 12x} \end{aligned}$$

⑦ The Area of a triangle is  $10 \text{ cm}^2$ . If the base is  $5 \text{ cm}$ , what is the height?

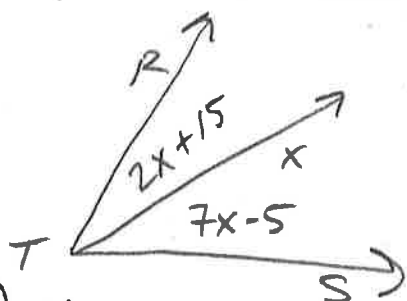
$$A = \frac{1}{2}bh$$

$$2 \cdot 10 = \frac{1}{2}(5)h \cdot 2$$

$$\boxed{h = 4 \text{ cm}}$$

⑧  $\overrightarrow{TX}$  bisects  $\angle RTS$ .  $m\angle RTX = 2x + 15$ ,  $m\angle XTS = 7x - 5$ .

Find  $m\angle RTX$ . [Draw the figure]



$$\begin{aligned} 2x + 15 &= 7x - 5 \\ -2x \quad +5 \quad -2x \quad +5 & \\ \hline 20 &= 5x \\ \frac{20}{5} &= \frac{5x}{5} \end{aligned}$$

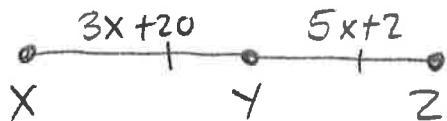
$$4 = x$$

$$\begin{aligned} m\angle RTX &= 2(4) + 15 \\ &= 8 + 15 \end{aligned}$$

$$\boxed{m\angle RTX = 23^\circ}$$

⑨ Y is the midpoint of  $\overline{XZ}$ . If  $XY = 3x + 20$ ,  $YZ = 5x + 2$

~~Find XY.~~ [Draw the figure] Find XZ.



$$\begin{aligned} 3x + 20 &= 5x + 2 \\ -3x \quad -2 \quad -3x \quad -2 & \\ \hline 18 &= 2x \end{aligned}$$

$$\frac{18}{2} = \frac{2x}{2}$$

$$9 = x$$

$$3(9) + 20$$

$$18 + 20$$

$$38$$

$$XZ = 2(38) = \boxed{76}$$

⑩ If  $m\angle P$  is  $(5x - 2)$ , what is the complement?

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

$$90 - 5x + 2$$

$$\boxed{(92 - 5x)^\circ}$$