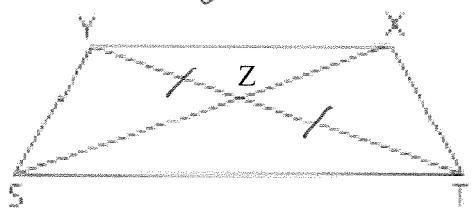
1.2 More Practice Name: Answer Key

1. Given: $\overline{XS} \cong \overline{YT}, \overline{YZ} \cong \overline{ZT}$
   YZ = $3x^2 - 5x$
   ZT = $2x^2 - 4x + 6$



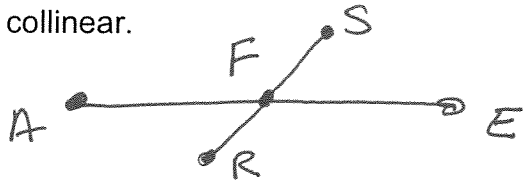
   a.) What is the value of x? -2 or 3
   b.) What is ZT? 22 or 12
   c.) What is XS? 44 or 24

$3x^2 - 5x = 2x^2 - 4x + 6$
$-2x^2 + 4x - 6 \quad -2x^2 + 4x - 6$
$x^2 - 1x - 6 = 0$
$(x-3)(x+2) = 0$
$x = 3 \quad x = -2$

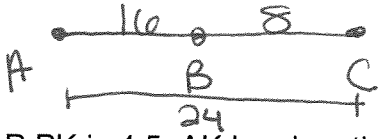
Check x-values

If $x = 3$: $YZ = 12$ ✓, $ZT = 12$ ✓
If $x = -2$: $YZ = 22$, $ZT = 22$

2. Draw a diagram in which F is between A and E. F is also between R and S and A, E, R and S are non collinear.



3. If AB = 16, BC = 8, and AC = 24, which point is between the other two? Draw a picture.

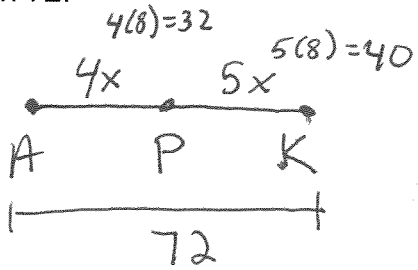


B is between A and C.

4. P is between A and K. AP:PK is 4:5. AK has length 72.

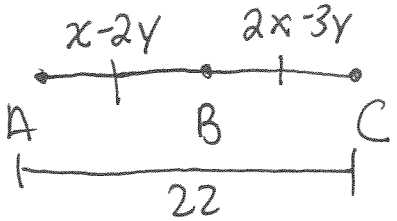
   a. How long is AP? 32u

   b. Are AP and PK congruent?
   NO.
   $32 \neq 40$
   So the segments are not $\cong$.



$4x + 5x = 72$
$9x = 72$ → $x = 8$

5. If AB = x – 2y, BC = 2x – 3y, AC = 22, and B is AB's midpoint, find the sum of x and y.
   AC's



$x - 2y + 2x - 3y = 22$
$3x - 5y = 22$

$x - 2y = 2x - 3y$
$-2x + 3y \quad -2x + 3y$
$-x + y = 0$

system
3. $\begin{cases} 3x - 5y = 22 \\ -x + y = 0 \end{cases}$
$\begin{cases} 3x - 5y = 22 \\ -3x + 3y = 0 \end{cases}$

$\frac{-2y = 22}{-2 \quad -2}$
$y = -11$

$-x - 11 = 0$
$+11 \quad +11$
$-x = 11$
$x = -11$

Solution $(-11, -11)$
Sum $= -11 + -11 = -22$