

UNIT 3 TEST REVIEW

☆ Remember: All work must be shown neatly and clearly to receive credit. Don't forget to check!

$x = \left\{ -\frac{2}{3}, 6 \right\}$ 1) Solve: $3x^2 + 16x - 12 = 0$

$$\begin{array}{r} -36 \\ -18 \times 2 \\ \hline 16 \end{array}$$

$$3x^2 - 18x + 2x - 12$$

$$3x(x-6) + 2(x-6)$$

$$(3x+2)(x-6)$$

No Calculator!
You may use your small journals!

For each line, use the given information to:

- a) Write an equation of the line in point-slope form.
- b) Write an equation of the line in slope-intercept form.

$y - 3 = -\frac{1}{3}(x + 6)$ 2a) The line with slope $-\frac{1}{3}$ that contains the point $(-6, 3)$

$y = -\frac{1}{3}x + 1$ 2b) -2

$y - 4 = -\frac{1}{2}(x + 2)$ 3a) The line through the points $(-2, 4)$ and $(-4, 5)$

$y = -\frac{1}{2}x + 3$ 3b) $m = \frac{1}{-2}$

$y - 3 = 2(x - 4)$ 4a) The line perpendicular to $y = -\frac{1}{2}x + 4$ that contains the point $(4, 3)$

$y = 2x - 5$ 4b) $m = 2$

$y + 3 = -5(x + 2)$ 5a) The perpendicular bisector of the segment with endpoints $(3, -2)$ and $(-7, -4)$

$y = -5x - 7$ 5b) midpoint $(-2, -3)$

$m = \frac{-2 - (-4)}{3 - (-7)} = \frac{2}{10} = \frac{1}{5}$

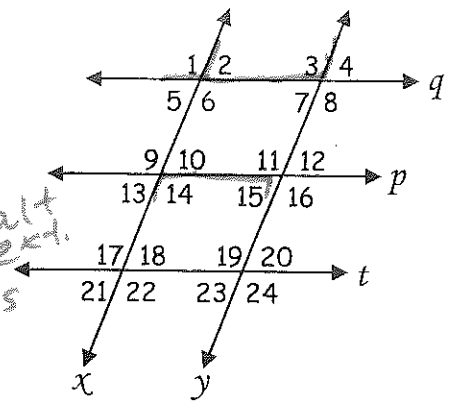
$m_{\perp} = -5$

$x = -2$ 6) Write the equation of the line perpendicular to $y = 5$ and containing $(-2, 5)$.

$y = 5$ 7) Write the equation of the line parallel to $y = -2$ and containing $(4, 5)$.

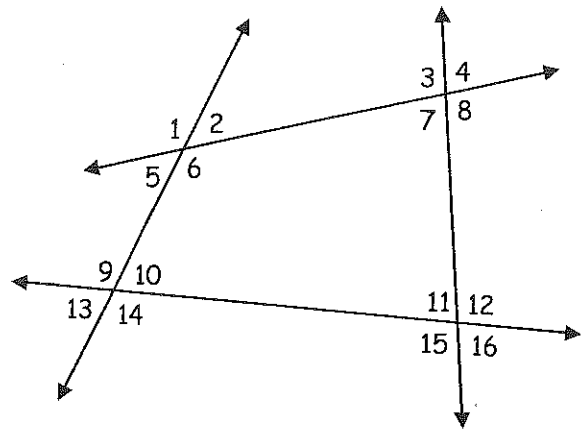
Given the following information, determine which lines are parallel and name the transversal. State the postulate or theorem that justifies your answer.

- $x \parallel y$, q , conv corr \angle s post 14) $\angle 1 \cong \angle 3$
 $p \parallel q$, q , conv alt int \angle s thm 15) $\angle 10 \cong \angle 5$
NONE 16) $\angle 3 \cong \angle 24$ *or alt, y, alt ext. \angle s*
 $x \parallel y$, p , conv SSI \angle s thm 17) $m\angle 14 + m\angle 15 = 180^\circ$



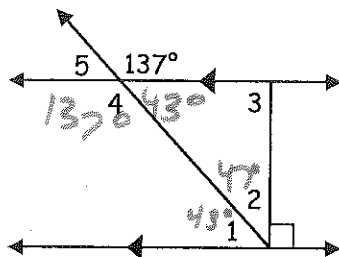
Identify the type of angle pair created by each pair of angles. If the two angles don't create any angle pair you've learned this year, write "NONE".

- NONE (or alt ext) 18) $\angle 5$ & $\angle 4$
conv \angle s 19) $\angle 15$ & $\angle 7$
SSI \angle s 20) $\angle 8$ & $\angle 12$
NONE 21) $\angle 4$ & $\angle 11$
Alt Int \angle s 22) $\angle 2$ & $\angle 7$
Vert \angle s 23) $\angle 11$ & $\angle 16$
Linear Pair 24) $\angle 2$ & $\angle 6$



Given the sets of parallel lines, find the value of the measure of each numbered angle.

- 25) $m\angle 1 = 43^\circ$
 $m\angle 2 = 47^\circ$
 $m\angle 3 = 90^\circ$
 $m\angle 4 = 137^\circ$
 $m\angle 5 = 43^\circ$



- 26) $m\angle 1 = 51^\circ$
 $m\angle 2 = 76^\circ$
 $m\angle 3 = 53^\circ$
 $m\angle 4 = 76^\circ$
 $m\angle 5 = 51^\circ$

