

Name Key

Period _____

Date _____

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: $3x^2 + 16x - 12 = 0$

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

$$\begin{aligned} 3x^2 - 18x + 2x - 12 \\ 3x(x-6) + 2(x-6) \\ (3x+2)(x-6) \end{aligned}$$

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 $(4, 5)$.

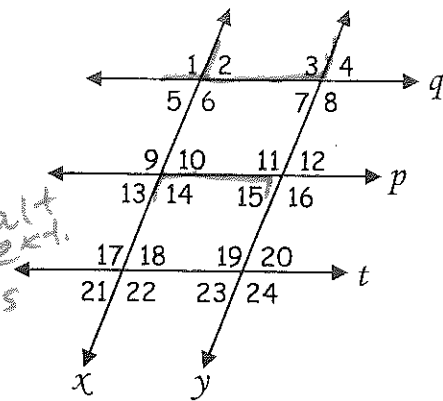
Given the following information, determine which lines are parallel and name the transversal. State the postulate or theorem that justifies your answer.

$x \parallel y$, 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 \angle 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) $\angle 15$ & $\angle 7$

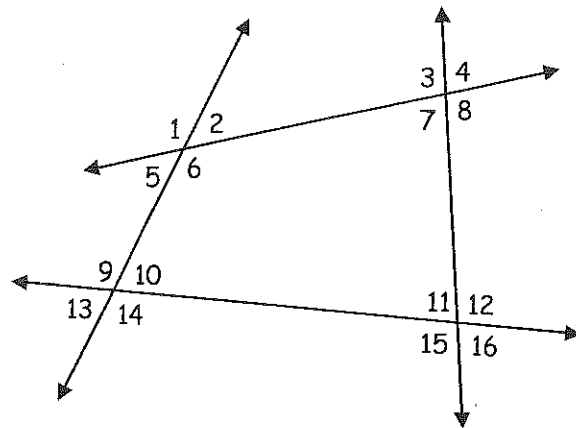
SSI \angle s 20) $\angle 8$ & $\angle 12$

NONE 21) $\angle 4$ & $\angle 11$

Alt Int \angle s 22) $\angle 2$ & $\angle 7$

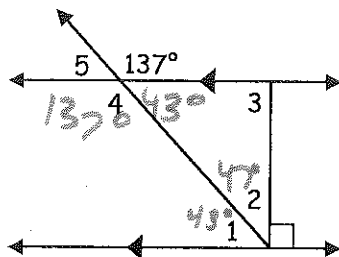
Vert \angle s 23) $\angle 11$ & $\angle 16$

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

