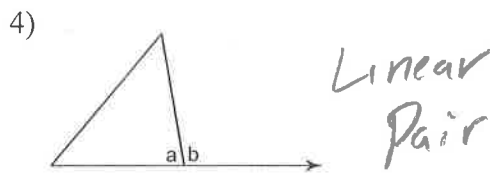
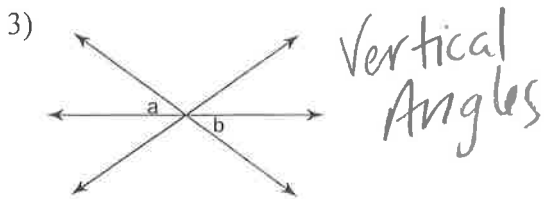
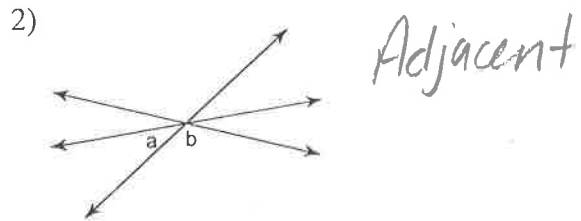
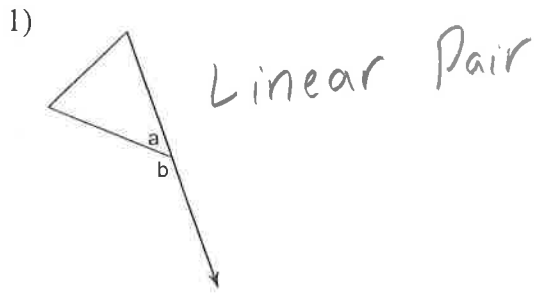


Workday 1.4 - 1.6

Name the relationship: linear pair, vertical, or adjacent.



Find the distance between each pair of points.

5) $(-8, 8), (2, 2)$ $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
 $d = \sqrt{(2 - (-8))^2 + (2 - 8)^2}$
 $d = \sqrt{(10)^2 + (-6)^2}$
 $d = \sqrt{100 + 36} = \sqrt{136}$
 $d = 2\sqrt{34}$

6) $(6, -1), (-4, -5)$
 $d = \sqrt{(-4 - 6)^2 + (-5 - (-1))^2}$
 $d = \sqrt{(-10)^2 + (-4)^2}$
 $d = \sqrt{100 + 16} = \sqrt{116}$
 $d = 2\sqrt{29}$

Find the midpoint of the line segment with the given endpoints.

7) $(2, 5), (1, 9)$ $(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2})$
 $(\frac{2+1}{2}, \frac{5+9}{2})$
 $(\frac{3}{2}, \frac{14}{2})$
 $(1.5, 7)$

8) $(8, 9), (4, 2)$
 $(\frac{8+4}{2}, \frac{9+2}{2})$
 $(\frac{12}{2}, \frac{11}{2}) \rightarrow$ **$(6, 5.5)$**

Find the other endpoint of the line segment with the given endpoint and midpoint.

9) Endpoint: $(-8, 3)$, midpoint: $(8, 3)$
 $(-8, 3) \xrightarrow{+16} (8, 3) \xrightarrow{+16} (24, 3)$
 $(24, 3)$

10) Endpoint: $(7, -5)$, midpoint: $(-4, 7)$
 $(7, -5) \xrightarrow{-11} (-4, 7) \xrightarrow{-11} (-15, 19)$
 $(-15, 19)$

11. The $m\angle PQS = (7x - 12)^\circ$. Find the expression to represent the supplement of $\angle PQS$.

$$180 - (7x - 12)$$

$$180 - 7x + 12$$

$$(192 - 7x)^\circ$$

12. The $m\angle ABC = (3x + 25)^\circ$ and the $m\angle CBD = (2x + 35)$. If these two angles are complementary, what is $m\angle ABC$?

$$3x + 25 + 2x + 35 = 90$$

$$5x + 60 = 90$$

$$\begin{array}{r} -60 \quad -60 \\ \hline 5x = 30 \\ \frac{5x}{5} = \frac{30}{5} \end{array}$$

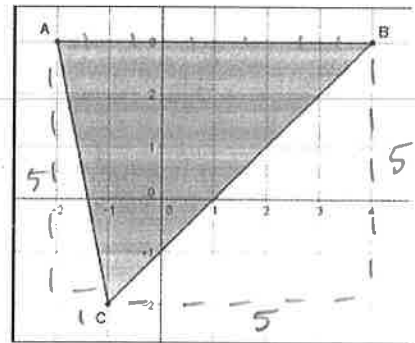
$$x = 6$$

$$m\angle ABC = 3(6) + 25$$

$$= 18 + 25$$

$$m\angle ABC = 43^\circ$$

13. Find the perimeter and the area of the triangle.



$$a^2 + b^2 = c^2$$

$$5^2 + 5^2 = (BC)^2$$

$$25 + 25 = (BC)^2$$

$$\sqrt{50} = (BC)$$

$$\sqrt{2} \sqrt{25}$$

$$1.5 \sqrt{5}$$

$$5\sqrt{2} = BC$$

$$a^2 + b^2 = c^2$$

$$5^2 + 1^2 = (AC)^2$$

$$25 + 1 = (AC)^2$$

$$\sqrt{26} = (AC)$$

$$\sqrt{26} = AC$$

$$A = \frac{1}{2}(5)(5)$$

Perimeter = $6 + 5\sqrt{2} + \sqrt{26}$ units

Area = $A = 15$ units²