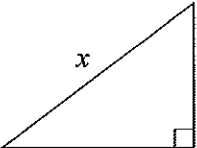
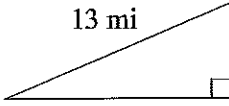
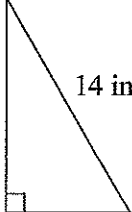


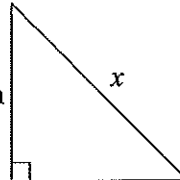
Find the missing side of each triangle. Round your answers to the nearest tenth if necessary.

1)  $6^2 + 8^2 = x^2$
 $36 + 64 = x^2$
 $100 = x^2$
 $\sqrt{100} = \sqrt{x^2}$
 $10 = x$

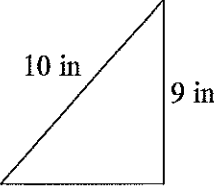
2)  $5^2 + x^2 = 13^2$
 $25 + x^2 = 169$
 $-25 \quad -25$
 $x^2 = 144$
 $\sqrt{x^2} = \sqrt{144}$
 $x = 12$

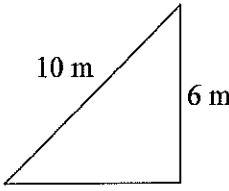
Find the missing side of each triangle. Leave your answers in simplest radical form.

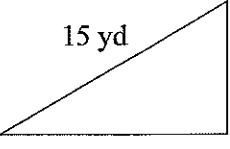
3)  $7^2 + x^2 = 14^2$
 $49 + x^2 = 196$
 $-49 \quad -49$
 $x^2 = 147$
 $\sqrt{x^2} = \sqrt{147}$
 $x = \sqrt{49 \cdot 3}$
 $x = \sqrt{49} \cdot \sqrt{3}$ $x = 7\sqrt{3}$

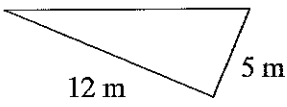
4)  $4^2 + 4^2 = x^2$
 $16 + 16 = x^2$
 $32 = x^2$
 $\sqrt{32} = \sqrt{x^2}$
 $\sqrt{16 \cdot 2} = x$
 $\sqrt{16} \cdot \sqrt{2} = x$
 $4\sqrt{2} = x$

State if each triangle is acute, obtuse, or right.

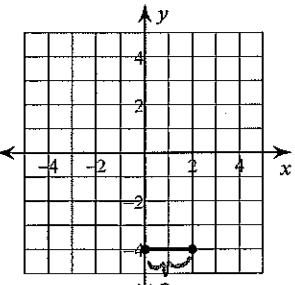
5)  $8^2 + 9^2 \stackrel{?}{=} 10^2$
 $64 + 81 \stackrel{?}{=} 100$
 $145 > 100$
 \Rightarrow **Acute**

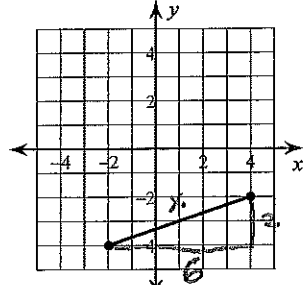
6)  $6^2 + 6^2 \stackrel{?}{=} 10^2$
 $36 + 36 \stackrel{?}{=} 100$
 $72 < 100 \Rightarrow$ **obtuse**

7)  $12^2 + 7^2 \stackrel{?}{=} 15^2$
 $144 + 49 \stackrel{?}{=} 225$
 $193 < 225$
 \Rightarrow **Obtuse**

8)  $5^2 + 12^2 \stackrel{?}{=} 13^2$
 $25 + 144 \stackrel{?}{=} 169$
 $169 = 169$
 \Rightarrow **Right**

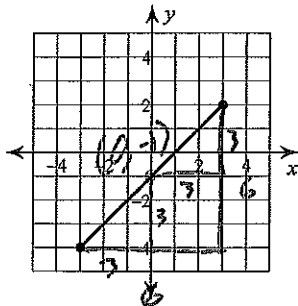
Find the distance between each pair of points.

9)  **2 units**

10)  $6^2 + 2^2 = x^2$
 $36 + 4 = x^2$
 $40 = x^2$
 $\sqrt{40} = \sqrt{x^2}$
 $\sqrt{4 \cdot 10} = x$
 $\sqrt{4} \cdot \sqrt{10} = x$
 $2\sqrt{10} = x$

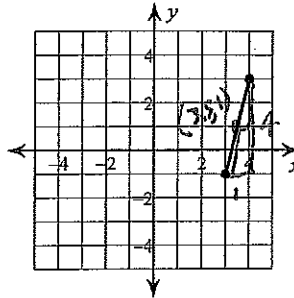
Find the midpoint of each line segment.

11)



$$\left(\frac{-3+3}{2}, \frac{-1+2}{2} \right) = (0, -1)$$

12)



$$\left(\frac{3+4}{2}, \frac{-1+3}{2} \right) = \left(\frac{7}{2}, \frac{2}{2} \right) = (3.5, 1)$$

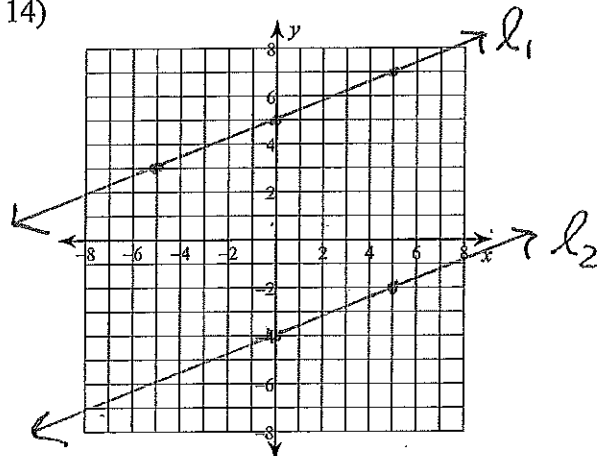
Graph the line. Find the slope of a line parallel to each given line. Challenge: Graph a line parallel to the given line.

13) $y = \frac{2}{5}x + 5$ $m = \frac{2}{5}$
 l_1

Parallel slope: $\frac{2}{5}$

Parallel Line: $y = \frac{2}{5}x + (-4)$
 l_2

14)



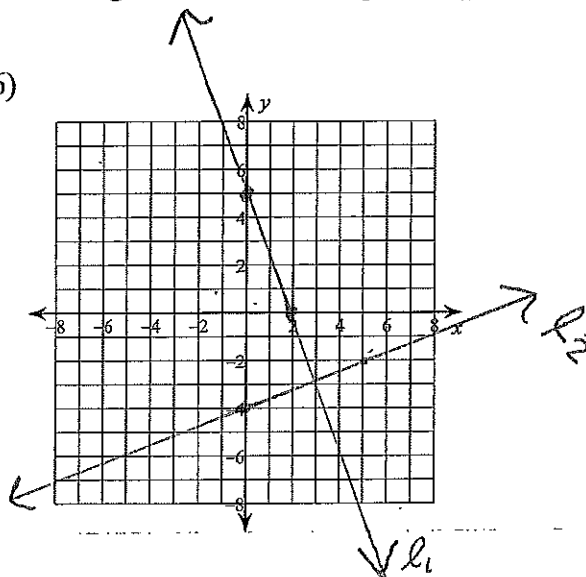
Graph the line. Find the slope of a line perpendicular to each given line. Challenge: Graph a line perpendicular to the given line.

15) $y = -\frac{5}{2}x + 5$ $m = -\frac{5}{2}$
 l_1

Perpendicular slope: $\frac{2}{5}$

Perpendicular line: $y = \frac{2}{5}x + (-4)$
 l_2

16)



Answers to (ID: 1)

- 1) 10 yd
 5) Acute
 9) 2

- 2) 12 mi
 6) Obtuse
 10) $2\sqrt{10}$

- 3) $7\sqrt{3}$ in
 7) Obtuse
 11) (0, -1)

- 4) $4\sqrt{2}$ cm
 8) Right
 12) $\left(3\frac{1}{2}, 1\right)$

13) $\frac{2}{5}$

14)

15) $\frac{2}{5}$

16)