BECA / Dr. Huson / Geometry 10-Trig+similarity+analytic Name:
pset ID: 169

**10-4DN-Tangent-situations**

1. Write down the slope perpendicular to the given slope.

   (a) $m = -\frac{4}{3}$ $\quad m_\perp =$

   (b) $m = 1.25$ $\quad m_\perp =$

2. Write down the center and radius of each circle. Simplify radicals.

   (a) $(x+3)^2 + (y-2)^2 = 25$

   (b) $(x-1)^2 + y^2 = 48$

   (c) $x^2 - 4x + y^2 - 12y = 9$

   (d) $x^2 + y^2 - 18y = -17$

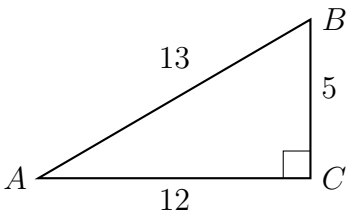
   In the following problems, use the point-slope formula: $y - y_1 = m(x - x_1)$

3. What is the equation of a line through $(1, 7)$ parallel to the line $y = \frac{3}{5}x - 3$?

4. What is the equation of a line through $(1, 0)$ perpendicular to the line $4x - 2y = 8$?

5. What is an equation of the perpendicular bisector of $\overline{AB}$ with $A(2, 7)$ and $B(-4, -5)$?

6. $\triangle ABC$ is shown with $m\angle C = 90°$ and the lengths of the triangle's sides are $BC = 5$, $AC = 12$, and $AB = 13$. (not drawn to scale)

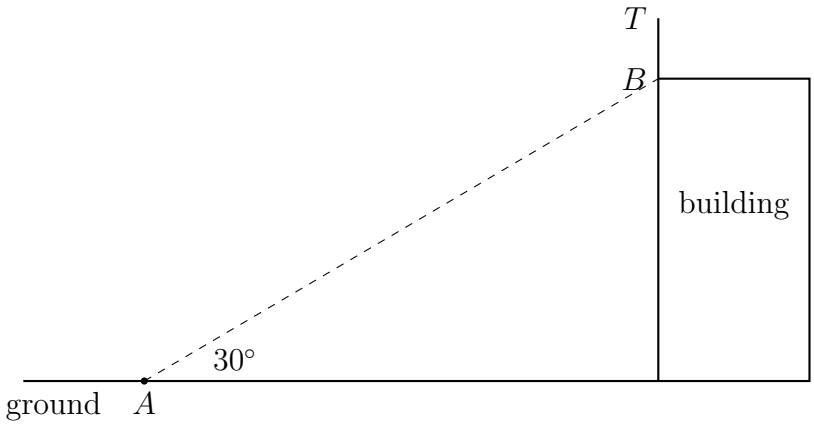



(a) Write down the value of $\tan A$. [1 mark]

(b) Find the measure of $\angle A$. [2 marks]

7. The following diagram shows a pole BT 1.6 m tall on the roof of a vertical building.

The angle of elevation of the top of the building from A is 30° and the distance from point $A$ to the building is 50 feet.




Find the height of the building to the *nearest foot*.