Review Quiz

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1. A line passes through the points with coordinates $(1, 2)$ and $(2, 4)$. Find an equation of the line.

2. Solve the following equation:
$$x^2 + 6x - 10 = 0$$

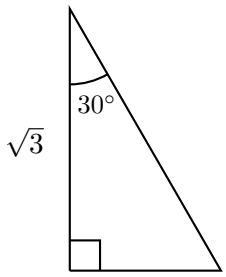
3. Solve for x: $2(x - 5) = 3(x + 2) - x + 1$

4. Solve for x and y: $\begin{cases} 2x - 3y &= 18 \\ 4x + 2y &= 4 \end{cases}$

5. Simplify: $(1 + \sqrt{2} + \sqrt{3})(2 + \sqrt{2} - \sqrt{6})$

6. Verify that $3 + \sqrt{2}$ is a solution to the equation
$$x^3 - 7x^2 + 13x - 7 = 0$$

7. Given $\sin 60^\circ = \dfrac{\sqrt{3}}{2}$ find the remaining two sides of the following right triangle.



8. Evaluate: $\log_{10} 1000$

9. Find the center and the radius of the following circle: $x^2 - 6x + y^2 + 4y = -4$

10. Consider the parabola $y = x^2 + 4x + 1$. Find the axis, the vertex and possible x and y intercepts.