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:
$$x^2 - 4x - 1 = 0$$

3. Simplify the following expression as much as possible:
$$\frac{\dfrac{3z+3}{z-3}+1}{\dfrac{z+1}{z-3}-1}$$

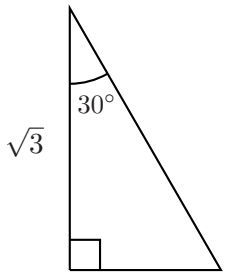
4. Simplify without using a calculator: $5\sqrt{18} - \sqrt{300} + 3\sqrt{12}$.

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

6. Solve for z: $|3z - 2| = 7$.

7. Solve:
$$\sqrt{6 + x} = x$$

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



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

10. Solve the inequality: $\dfrac{x+3}{x+5} \geq 0$

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