Lesson 4 Practice Problems
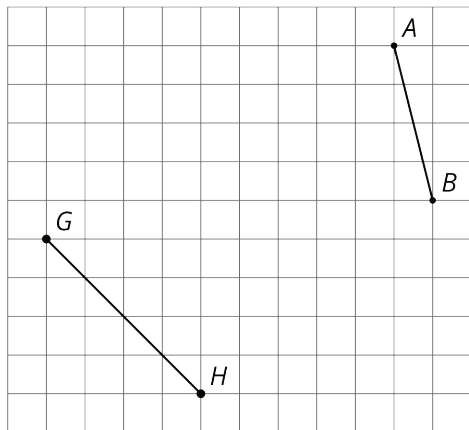
1.   a. Find the exact length of each line
        segment.

   b. Estimate the length of each line
      segment to the nearest tenth of a
      unit. Explain your reasoning.

2. Plot each number on the x-axis: $\sqrt{16},\ \sqrt{35},\ \sqrt{66}$. Consider using the grid to help.

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3. Use the fact that $\sqrt{7}$ is a solution to the equation $x^2 = 7$ to find a decimal approximation of $\sqrt{7}$ whose square is between 6.9 and 7.1.
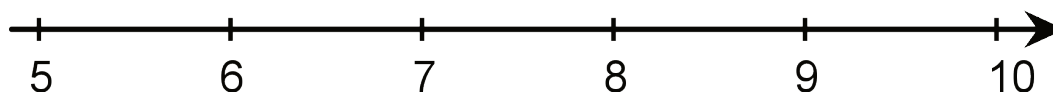
4.   a. Explain how you know that $\sqrt{37}$ is a little more than 6.

     b. Explain how you know that $\sqrt{95}$ is a little less than 10.

     c. Explain how you know that $\sqrt{30}$ is between 5 and 6.

5. Plot each number on the number line:
$$6, \sqrt{83}, \sqrt{40}, \sqrt{64}, 7.5$$

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6. The equation $x^2 = 25$ has *two* solutions. This is because both $5 \cdot 5 = 25$, and also -5 $\cdot$ -5 $= 25$. So, 5 is a solution, and also -5 is a solution.

   Select **all** the equations that have a solution of -4:

   A. $10 + x = 6$

   B. $10 - x = 6$

   C. $-3x = -12$

   D. $-3x = 12$

   E. $8 = x^2$

   F. $x^2 = 16$

7. Find all the solutions to each equation.

   a. $x^2 = 81$

   b. $x^2 = 100$

   c. $\sqrt{x} = 12$

8. The points $(12, 23)$ and $(14, 45)$ lie on a line. What is the slope of the line?

   (From Unit 5, Lesson 4.)