Name_____ Date_____

Planning the Climb

How can you plan a climbing expedition by writing and solving equations?

While rock climbing can be risky, it can also be a safe, enjoyable sport for people of all ages. One key to having a successful expedition is selecting a route that fits the skills and experience of the climber. Another key is careful planning.

Charlie and Sophie are planning a climb. They select a simple route and begin to plan their expedition.

1. A pitch is a section of a climbing route between two anchor points. Charlie and Sophie have chosen a route that is 500 feet long. They plan to use pitches that are 125 feet long. Write an equation that they can use to find the number of pitches they will need for their route.

2. Solve the equation in Exercise 1. Explain what the solution means in the context of the problem.

3. Charlie and Sophie complete the climb in about 2 hours. Write an equation that they can use to find their average speed in feet per minute.

4. Solve the equation in Exercise 3. Round your answer to the nearest whole number. Explain what the solution means in the context of the problem.

Chapter 3 **Performance Task** (continued)

Planning a Climb

5. Charlie and Sophie had so much fun on the climb that they want to climb again next weekend. Their next route is 1200 feet long. They visit rock climbing websites and learn that other climbers recommend 8 pitches for this route. Write an equation that Charlie and Sophie can use to find the average length of each pitch.

6. On average, how long must each pitch be for Charlie and Sophie to complete this climb in 8 pitches?

7. Use the average speed from their last climb to estimate how long (in hours) it will take them to complete this climb. Explain how you solved the problem.