Ratios and Proportions

1. A mixture of concrete is made up of sand and cement in a ratio of 5:3. How many cubic feet of each are needed to make 160 cubic feet of concrete mix?

2. After a 20% discount, the price of a SuperSic skateboard is $140. What was the price before the discount?

3. A runner ran 20 miles in 150 minutes. If she runs at that speed,
   a. How long would it take her to run 6 miles?
   b. How far could she run in 15 minutes?
   c. How fast is she running in miles per hour?
   d. What is her pace in minutes per mile?

4. Angel and Jayden were at track practice. The track is $\frac{2}{5}$ kilometers around. Angel ran 1 lap in 2 minutes. Jayden ran 3 laps in 5 minutes.
   a. How many minutes does it take Angel to run one kilometer? What about Jayden?
   b. How far does Angel run in one minute? What about Jayden?
   c. Who is running faster? Explain your reasoning.

5. To make Perfect Purple paint mix 1/2 cup blue paint with 1/3 cup red paint. If you want to mix blue and red paint in the same ratio to make 20 cups of Perfect Purple paint, how many cups of blue paint and how many cups of red paint will you need?