

## 8th Grade Lesson 100

- I can solve problems involving advanced ratios.

The ratio of nuts to bolts was 11 to 2. If there were 260 nuts and bolts in the pile, how many were bolts?

	ratio	actual
nuts	11	11
bolts	2	B
total	13	260

$$\frac{2}{13} = \frac{B}{260}$$

$$13B = 2 \cdot 260$$

$$\frac{13B}{13} = \frac{520}{13}$$

$$B = 40$$

40 bolts

Farmer Duncowski wanted to plant his farm with wheat and corn in the ratio of 7 acres to 9 acres. If he had 640 acres, how many should be planted in wheat?

$$W_R = 7$$

$$C_R = 9 \quad T_R = 16$$

$$T_A = 640$$

W

$$\frac{W_R}{T_R} = \frac{W_A}{T_A}$$

$$\frac{7}{16} = \frac{W}{640}$$

$$16W = 7 \cdot 640$$

$$\frac{16W}{16} = \frac{4480}{16}$$

$$W = 280$$

280 acres

When the race began, the ratio of professionals to amateurs was 2 to 17. If 3800 racers were in the race, how many were amateurs?

$$\frac{17}{19} = \frac{A}{3800}$$

$$P_R = 2$$

$$A_R = 17$$

$$T_R = 19$$

$$T_A = 3800$$

$$19A = 17 \cdot 3800$$

$$\frac{19A}{19} = \frac{64,600}{19}$$

$$A = 3400$$

3400 amateurs

# Assignment

Problem Set 100

#1-3, 7, 13-14, 18-19, 23-24