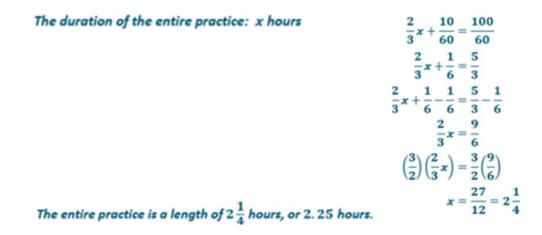# Algebra Word Problems Worksheets

1.  A volleyball coach plans her daily practices to include 10 minutes of stretching, $\frac{2}{3}$ of the entire practice scrimmaging, and the remaining practice time working on drills of specific skills.  On Wednesday, the coach planned 100 minutes of stretching and scrimmaging.  How long, in hours, is the entire practice?

2.  Nancy's morning routine involves getting dressed, eating breakfast, making her bed, and driving to work.  Nancy spends $\frac{1}{3}$ of the total time in the morning getting dressed, 10 minutes eating breakfast, 5 minutes making her bed, and the remaining time driving to work.  If Nancy spends $35\frac{1}{2}$ minutes getting dressed, eating breakfast, and making her bed, how long is her drive to work?

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1. A volleyball coach plans her daily practices to include 10 minutes of stretching, $\frac{2}{3}$ of the entire practice scrimmaging, and the remaining practice time working on drills of specific skills. On Wednesday, the coach planned 100 minutes of stretching and scrimmaging. How long, in hours, is the entire practice?

*The duration of the entire practice: $x$ hours*

$$\frac{2}{3}x + \frac{10}{60} = \frac{100}{60}$$

$$\frac{2}{3}x + \frac{1}{6} = \frac{5}{3}$$

$$\frac{2}{3}x + \frac{1}{6} - \frac{1}{6} = \frac{5}{3} - \frac{1}{6}$$

$$\frac{2}{3}x = \frac{9}{6}$$

$$\left(\frac{3}{2}\right)\left(\frac{2}{3}x\right) = \frac{3}{2}\left(\frac{9}{6}\right)$$

$$x = \frac{27}{12} = 2\frac{1}{4}$$

*The entire practice is a length of $2\frac{1}{4}$ hours, or $2.25$ hours.*

2. Nancy's morning routine involves getting dressed, eating breakfast, making her bed, and driving to work. Nancy spends $\frac{1}{3}$ of the total time in the morning getting dressed, 10 minutes eating breakfast, 5 minutes making her bed, and the remaining time driving to work. If Nancy spends $35\frac{1}{2}$ minutes getting dressed, eating breakfast, and making her bed, how long is her drive to work?

*Total time of routine: $x$ minutes*

$$\frac{1}{3}x + 10 + 5 = 35\frac{1}{2}$$

$$\frac{1}{3}x + 15 = 35\frac{1}{2}$$

$$\frac{1}{3}x + 15 - 15 = 35\frac{1}{2} - 15$$

$$\frac{1}{3}x + 0 = 20\frac{1}{2}$$

$$3\left(\frac{1}{3}x\right) = 3\left(20\frac{1}{2}\right)$$

$$x = 61\frac{1}{2}$$

$$61\frac{1}{2} - 35\frac{1}{2} = 26$$

*It takes Nancy 26 minutes to drive to work*

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