

## 10.4 Key Concepts 1 Algebraic Modelling Worked Example

**Example:** Fly-By-Night Airlines has one airplane with a pilot and a co-pilot. The pilot earns three times as much as the co-pilot. The pay for both is \$2400 per week. Find the salaries of the pilot and the co-pilot.

**Solution:** Let the co-pilot's salary be  $x$ . The pilot's salary is  $2x$ .

$$2x + x = 2400$$

$$3x = 2400$$

$$\frac{3x}{3} = \frac{2400}{3}$$

$$x = 800$$

$$2x = 1600$$

The pilot earns \$1600 per week and the co-pilot earns \$800 per week.

**Practice:**

1. A regular pentagon has a perimeter of 250 m. Find the measure of each side.

2. Bill and Suzuki are comparing the number of coins they have. Bill has three fewer than twice as many as Suzuki. They have a total of 12 coins between them. How many coins does each have?

Answers: 1. 50 m, 2. Suzuki has 5 and Bill has 7.