**Linear Relations** 

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Learning Goal 4.1 I can generalize a pattern using linear relations.

**Example** An airplane is cruising at a height of 10 000 metres. It descends to land. This table show the height of the plan every minute after it began its descent. The height of the plan changes at a constant rate.

a. Write an **expression** for the height in terms of the time since the plane began its descent.

Time ( <i>t</i> minutes)	Height ( <i>h</i> metres)
0	10 000
1	9 700
2	9 400
3	9 100
4	8 800

b. Write an **equation** that relates the height of the plane to the time since it began its descent.

c. What is the height of the plane after 15 minutes?

d. How long after beginning its descent does the plane land?

Chapter 4

**Example** I was out one night and needed to take a cab home. The company I called charges a flat fee of \$4.50 and then \$2.50 per kilometre.

a. Write an **expression** for the fare in terms of the fixed cost and the cost per kilometre.

b. Write an **equation** that relates the fare to the distance travelled.

c. What is the fare for an 11 km ride?

d. How many kilometres would I have to travel before my fare was \$50.00?