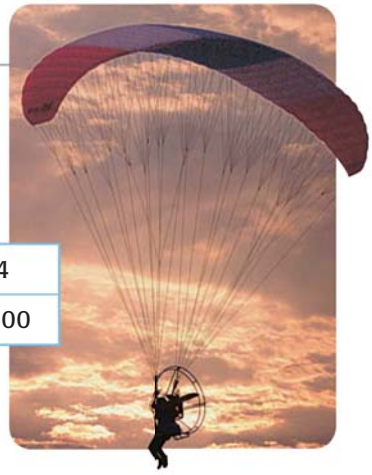
EXAMPLE 2 Look for a pattern



PARAMOTORING A paramotor is a parachute propelled by a fan-like motor. The table shows the height h of a paramotorist t minutes after beginning a descent. Find the height of the paramotorist after 7 minutes.

Time (min), t	0	1	2	3	4
Height (ft), h	2000	1750	1500	1250	1000

Solution

The height decreases by 250 feet per minute.

2000 → 1750 → 1500 → 1250 → 1000

−250 −250 −250 −250

You can use this pattern to write a verbal model for the height.

Height (feet)	=	Initial height (feet)	−	Rate of descent (feet/minute)	•	Time (minutes)
h	=	2000	−	250	•	t

An equation for the height is $h = 2000 - 250t$.

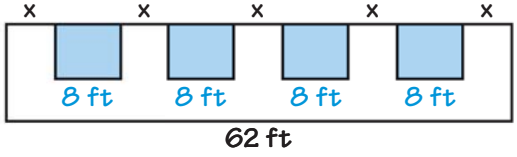
▶ So, the height after 7 minutes is $h = 2000 - 250(7) = 250$ feet.

EXAMPLE 3 Draw a diagram

BANNERS You are hanging four championship banners on a wall in your school's gym. The banners are 8 feet wide. The wall is 62 feet long. There should be an equal amount of space between the ends of the wall and the banners, and between each pair of banners. How far apart should the banners be placed?

Solution

Begin by drawing and labeling a diagram, as shown below.



From the diagram, you can write and solve an equation to find x.

$x + 8 + x + 8 + x + 8 + x + 8 + x = 62$ **Write equation.**

$5x + 32 = 62$ **Combine like terms.**

$5x = 30$ **Subtract 32 from each side.**

$x = 6$ **Divide each side by 5.**

▶ The banners should be placed 6 feet apart.

REVIEW STRATEGIES
For help with other problem solving strategies, see p. 998.