1 For babysitting, Becky charges according to the equation $C = 5n + 9$, where C is the amount charged, in dollars, and n is the number of hours she babysits.

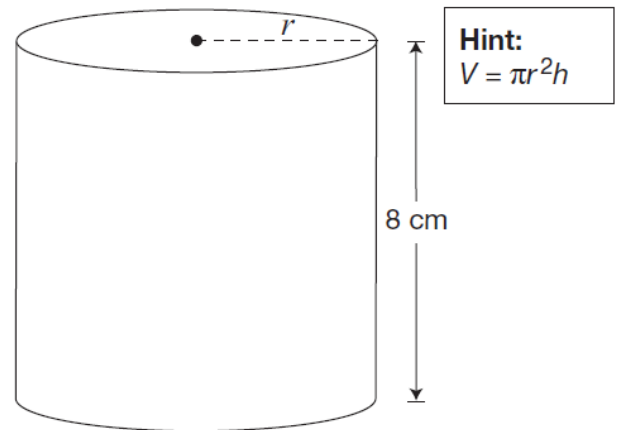Which statement about this situation is correct?

  a   Becky charges $14 per hour.

  b   Becky charges a flat fee of $14.

  c   Becky charges an initial fee of $5, plus $9 per hour.

  d   Becky charges an initial fee of $9, plus $5 per hour.

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2 Each week, Marissa withdraws the same amount from her bank account.

The equation $A = 1550 - 90w$ represents the relationship between the amount of money remaining in her account, A, in dollars, and the number of weeks of withdrawing, w.

For how many weeks has Marissa made withdrawals when the amount remaining in the account is $110?

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3 The volume of the cylinder shown below is 408 cm³.

Hint:
$V = \pi r^2 h$

8 cm

Which of the following is closest to the radius of the cylinder?
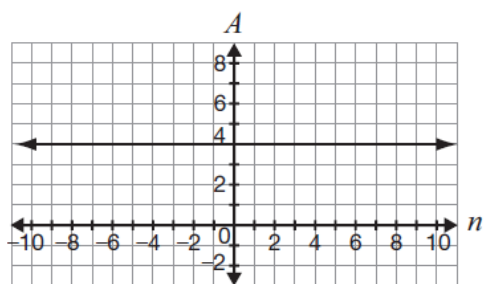
  a   4 cm

  b   8 cm

  c   14 cm

  d   16 cm

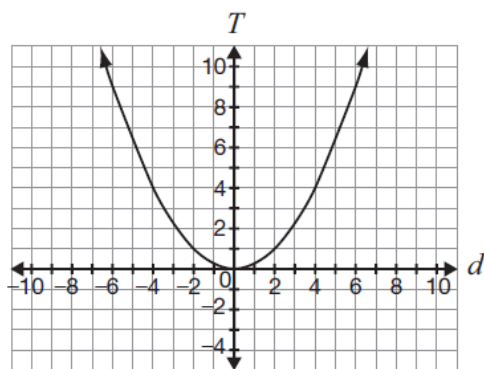**4** Water is being pumped to empty a swimming pool.

At 6 a.m., the water level is 150 cm. Every 2 hours, the water level drops by 30 cm.

What is the earliest time when the pool will be empty?

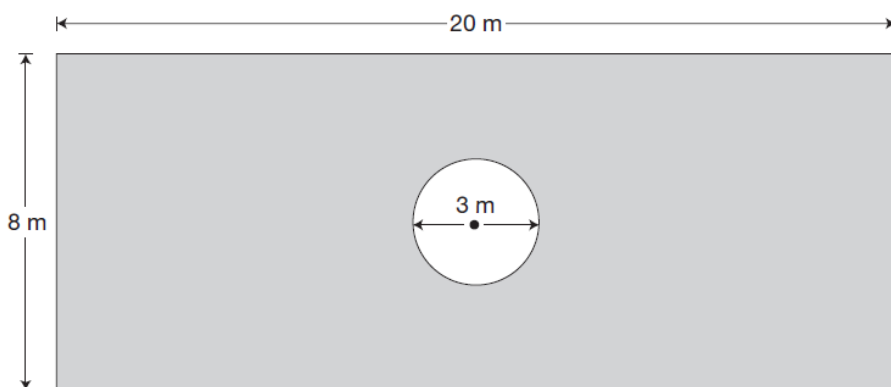**5** Consider the four different relationships represented below.

A

T

w	A
0	0
2	14
4	20
6	18
8	8

n	C
1	13
2	9
3	6
4	4
5	3

How many are linear relationships?

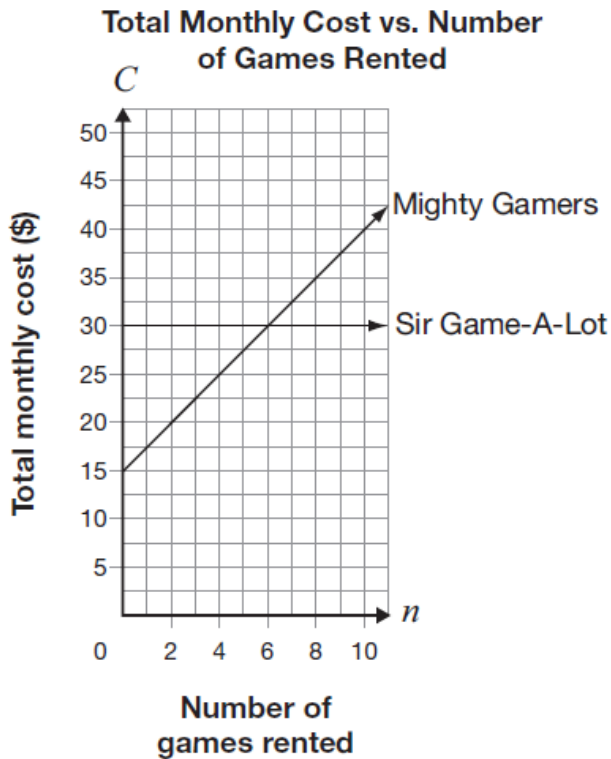a 1

b 2

c 3

d 4

---

6 Terry is painting the shaded area of the rectangular wall shown below.

The average cost of paint is $0.40/m^2.

Determine the total cost of the paint needed to cover the shaded area of the wall.

7 Data about the total monthly cost to rent video games from two online game sites are shown on the graph below.

Total Monthly Cost vs. Number of Games Rented
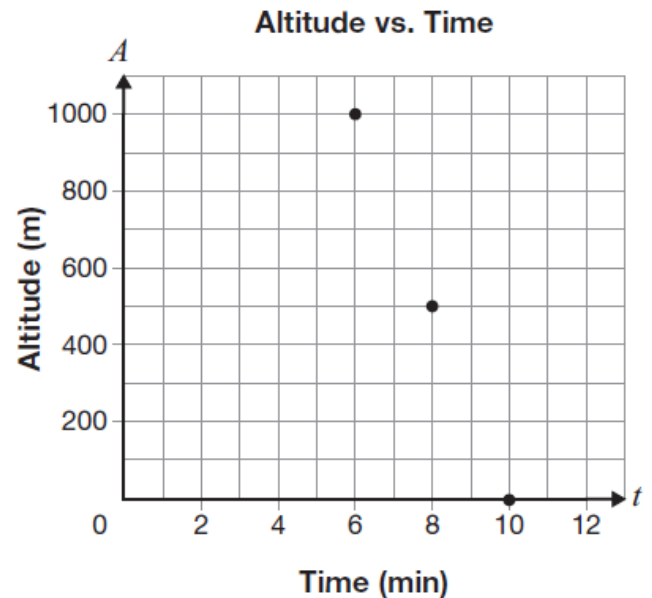

Which of the following statements is true?

a   It costs more to rent from Sir Game-A-Lot after 6 games.

b   It costs less to rent from Mighty Gamers after 30 games.

c   It costs the same amount to rent 6 games from the two sites.

d   It costs the same amount to rent 30 games from the two sites.

8 What is the value of x in the equation
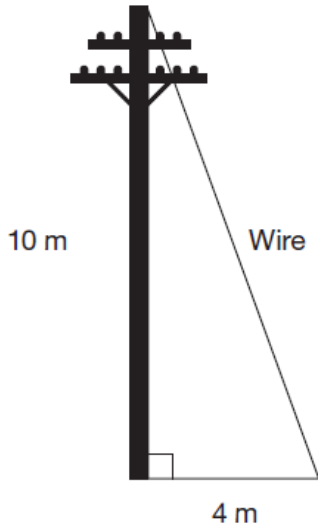
$$25 - \sqrt{x} = 9?$$

a   4

b   16

c   225

d   256

9 Each of the three points on the grid below gives information about the altitude of a hot air balloon at a certain time.

Altitude vs. Time

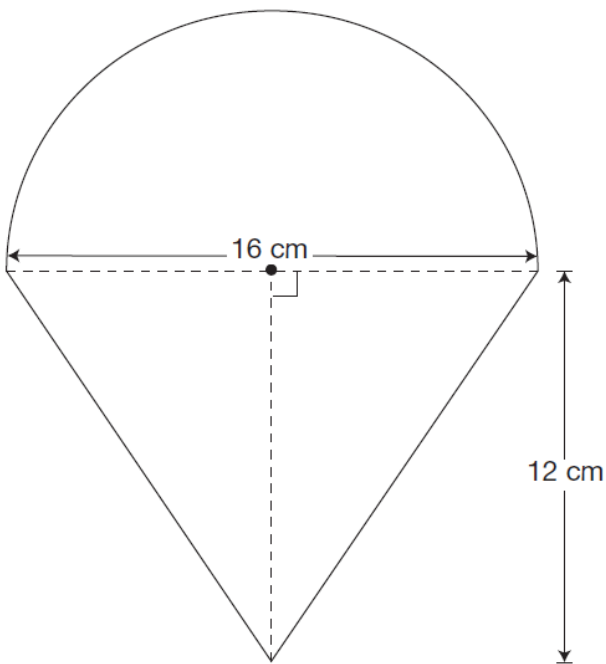If the relationship between altitude and time is linear, what was the altitude of the balloon at 4 minutes?

10 A wire is attached from the top of a 10 m pole to a spot on the ground 4 m away from the base of the pole, as shown below.

10 m

Wire

4 m

Which of the following is closest to the length of the wire?

a   11 m

b   14 m

c   20 m

d   28 m

---

11 The shape below is made of a semicircle and a triangle.

16 cm

12 cm

Determine the area of this shape.