

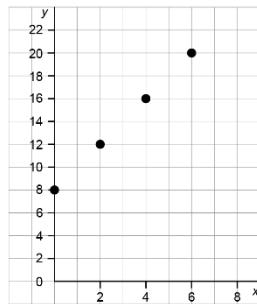
# Activity 11 Assessment

## Writing and Solving Problems Involving Linear Relations

### Writing and Solving Problems Involving Linear Relations

Represents a linear expression or equation by constructing a table of values and drawing a graph

$x$	$2x + 8$
0	8
2	12
4	16
6	20



Interprets a linear expression or equation by describing a situation it could be used to model

For the expression  $2x + 8$ , I let 8 represent the entrance cost, in dollars, to a fair. I let  $x$  represent the number of rides a person goes on, and 2 represent the cost, in dollars, of each ride. The expression  $2x + 8$  is the total cost to go to the fair and go on some rides.

Solves problems related to a situation that can be modelled by a linear expression or equation that is provided

If I know that a person spent \$30 at the fair, I can write the equation  $30 = 2x + 8$  and use it to determine how many rides they went on.

$$30 = 2x + 8$$

Subtract 8 from each side.

$$30 - 8 = 2x + 8 - 8$$

$$22 = 2x$$

Divide both sides by 2.

$$\frac{22}{2} = \frac{2x}{2}$$

$$11 = x$$

The person went on 11 rides.

Writes a linear expression or equation to represent a given situation and uses it to solve problems

For every 3 books participants read in the summer reading program, they get a ticket for a draw. If Nahlah gets 8 tickets, how many books did they read?

**Solution:**

I let the number of books read be  $b$ .

To determine the number of tickets, divide the number of books by 3.

If Nahlah gets 8 tickets, I can write

$$8 = \frac{b}{3}$$

Multiply both sides by 3.

$$8 \times 3 = \frac{b}{3} \times 3$$

$$24 = b$$

Nahlah read 24 books.

### Observations/Documentation

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