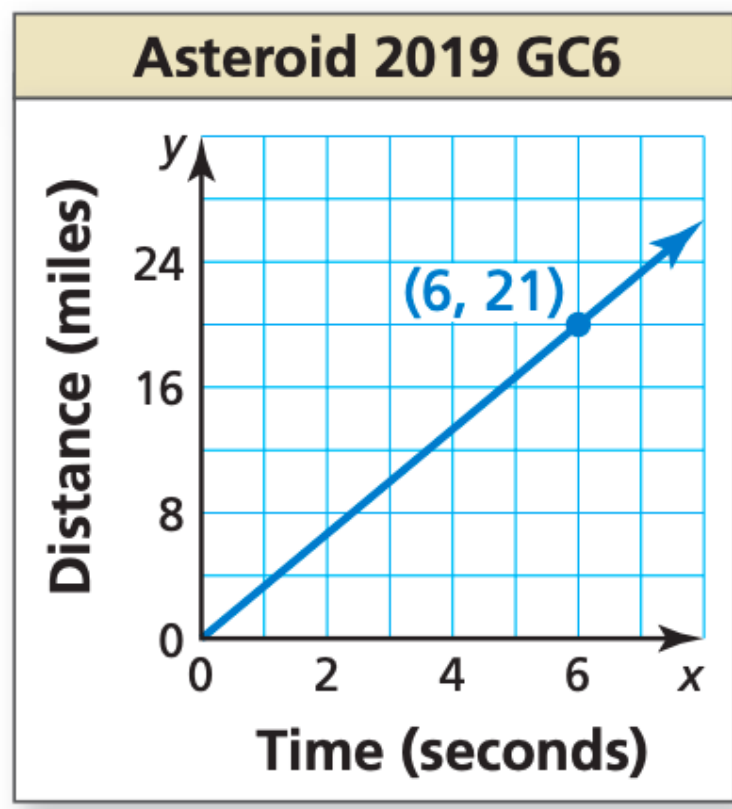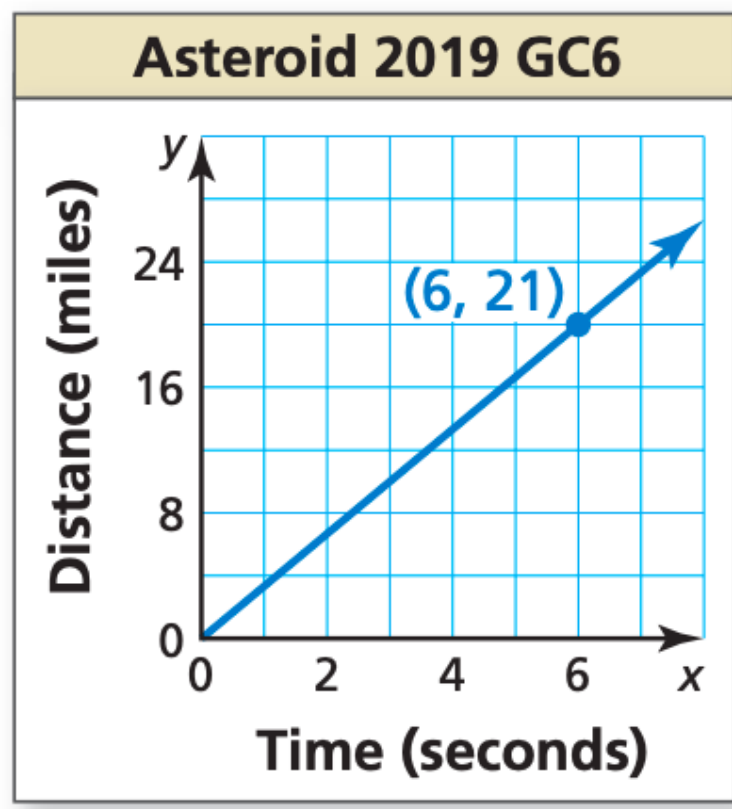# Writing Linear Equations

Slope-Intercept Form

Point-Slope Form

Slope Formula

The graph shows the distance Asteroid 2019 GC6 travels in x seconds. Write an equation of the line and interpret the slope. The asteroid came within 136,000 miles of Earth in April, 2019. About how long does it take the asteroid to travel that distance?

Asteroid 2019 GC6

Distance (miles)

24

16

8

0

(6, 21)

0   2   4   6   x

Time (seconds)

The graph shows the distance Asteroid 2019 GC6 travels in x seconds. Write an equation of the line and interpret the slope. The asteroid came within 136,000 miles of Earth in April, 2019. About how long does it take the asteroid to travel that distance?

Asteroid 2019 GC6

Distance (miles)

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(6, 21)

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0   2   4   6   x

Time (seconds)

Two prom venues charge a rental fee plus a fee per student. The table shows the total costs (in dollars) for different numbers of students at Lakeside Inn. The total cost y (in dollars) for x students at Sunview Resort is represented by the equation y = 10x + 600.

Which venue charges less per student? How many students must attend for the total costs to be the same?

Lakeside Inn	
Number of students, *x*	Total cost, *y*
100	$1500
125	$1800
150	$2100
175	$2400
200	$2700

Determine whether the data show a linear relationship. If so, write an equation of a line of fi t. Then estimate y when x = 15 and explain its meaning in the context of the situation.

Months, x	9	13	18	22	23
Hair length (in.), y	3	5	7	10	11

The table shows the femur lengths (in centimeters) and heights (in centimeters) of several people. Do the data show a linear relationship? If so, write an equation of a line of fi t and use it to estimate the height of a person whose femur is 35 centimeters long.

Femur length (cm), x	Height (cm), y
40	170
45	183
32	151
50	195
37	162
41	174
30	141
34	151
47	185
45	182