For help with question 2, refer to Example 1.

2. Rewrite each equation in slope y-intercept form.

a) $2x + y - 1 = 0$ **b)** $3x - y - 5 = 0$

c) $2x + y - 4 = 0$ **d)** $5x + y + 8 = 0$

e) $x - y + 1 = 0$ **f)** $2x - y - 3 = 0$

For help with question 3, refer to Example 2.

3. Rewrite each equation in slope y-intercept form, then state the slope and the y-intercept.

a) $2x - y + 4 = 0$ **b)** $3x + y - 2 = 0$

c) $x - y + 4 = 0$ **d)** $3x + y + 11 = 0$

e) $8x - y - 5 = 0$ **f)** $2x + y + 7 = 0$

4. Rewrite each equation in slope y-intercept form. State the slope and the y-intercept of each.

a) $5x - 5y - 15 = 0$ **b)** $2x - 3y + 12 = 0$

c) $8x + 4y - 20 = 0$ **d)** $x - 2y + 10 = 0$

e) $x - 5y + 15 = 0$ **f)** $3x - 4y + 12 = 0$

g) $8x - 6y - 36 = 0$ **h)** $3x + 6y + 18 = 0$

Apply the Concepts (B)

Math Connect

A 5-star sightseeing train will soon be running on the new Qinghai-Tibet railway in China. The transparent cars will allow views on all sides. Passengers will be able to shower on the train and enjoy dance performances and karaoke. A sightseeing holiday on this train will cost over $1000 per day.

For help with question 5, refer to Example 3.

5. A sightseeing train runs tours at four different times on Saturdays. An adult ticket is $3 and a child's ticket is $1. One Saturday, the total ticket revenue was $750. On this day, 150 tickets were sold for the first tour, 95 for the second, 125 for the third, and 96 for the fourth.

a) Write an equation to model the total revenue for this Saturday.

b) Rearrange the equation to isolate the variable representing children's tickets.

c) Find the total number of children's tickets sold on this Saturday.

Model With Formulas, pages 174–183

a) $w = \frac{A}{l}$ b) $l = \frac{P - 2w}{2}$

c) $b = y - mx$ d) $r = \frac{C}{2\pi}$

e) $h = \frac{V}{lw}$ f) $h = \frac{2A}{b}$

a) 112.5 km b) $s = \frac{d}{t}$; 75 km/h

c) $t = \frac{d}{s}$; 1.75 h

$136

$2500

a) $t = \frac{I}{Pr}$ b) $r = \frac{I}{Pt}$ c) $P = \frac{I}{rt}$

d)

I	P	r	t
1980	2200	0.15	6
240	800	0.1	3
625	625	0.25	4
3300	2000	0.15	11
450	1800	0.05	5
4400	5000	0.04	22
450	600	0.025	30
522	725	0.08	9

. $3200

. Graham: 45 km/h; Colin: 55 km/h

. No, the two girls will be 13 km apart.

. Answers will vary.

. 85 words per minute

. 10

. a) $C = \frac{5(F - 32)}{9}$

b) 31.1°C

c) $C = \frac{F - 30}{2}$

d) 29°C

e) The graph shows that the lines are very close to each other.

. 30 600 kPa

. a) $32 per person

b) $42 per person

c) Since both halls charge $16 800 for an event with 400 people, neither hall is a better deal than the other.

. Raymond: 1.06, Jesse: 1.23, Tran: 1.26, Harvinder: 1.11, Igor: 1.23; The coach should choose Raymond, because he has the lowest WHIP.

4.4 Convert Linear Equations From Standard Form, pages 184–189

1. a) $m = -3, b = -6; y = -3x - 6$

b) $m = \frac{1}{4}, b = 2; y = \frac{1}{4}x + 2$

c) $m = \frac{5}{2}, b = -2; y = \frac{5}{2}x - 2$

d) $m = 2, b = 1; y = 2x + 1$

2. a) $y = -2x + 1$

b) $y = 3x - 5$

c) $y = -2x + 4$

d) $y = -5x - 8$

e) $y = x + 1$

f) $y = 2x - 3$

3. a) $y = 2x + 4; m = 2, b = 4$

b) $y = -3x + 2; m = -3, b = 2$

c) $y = x + 4; m = 1, b = 4$

d) $y = -3x - 11; m = -3, b = -11$

e) $y = 8x - 5; m = 8, b = -5$

f) $y = -2x - 7; m = -2, b = -7$

4. a) $y = x - 3; m = 1, b = -3$

b) $y = \frac{2}{3}x + 4; m = \frac{2}{3}, b = 4$

c) $y = -2x + 5; m = -2, b = 5$

d) $y = \frac{1}{2}x + 5; m = \frac{1}{2}, b = 5$

e) $y = \frac{1}{5}x + 3; m = \frac{1}{5}, b = 3$

f) $y = \frac{3}{4}x + 3; m = \frac{3}{4}, b = 3$

g) $y = \frac{4}{3}x - 6; m = \frac{4}{3}, b = -6$

h) $y = -\frac{1}{2}x - 3; m = -\frac{1}{2}, b = -3$

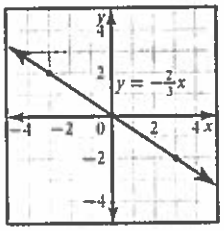
5. a) $3x + y = 750$, where x represents the number of adult tickets and y represents the number of children's tickets.

b) $y = -3x + 750$

c) 324

6. Subtract $3x - 3$ from both sides and then divide both sides by 2.

7. a)



b) $m = -\frac{2}{3}, b = 0$

c) $y = -\frac{2}{3}x$

d) If $C = 0$, then the graph passes through the origin.

8. −11

9. 5

10. −35