Answers to Rotation 1

1) $x - 5y = -20$
2) $2x + 3y = 15$
3) $6x + 2y = 31$
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Answers to Rotation 2

1) $y = -\frac{7}{2}x + 4$
2) $y = 10x + 5$
3) $y = \frac{7}{6}x - \frac{11}{6}$
4) $y = -\frac{5}{4}x - 2$
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Answers to Rotation 3

1) $y-1=-\frac{2}{5}(x+5)$ *or* $y+1=-\frac{2}{5}(x-0)$ *or* $y+3=-\frac{2}{5}(x-5)$

2) $y-2=-\frac{1}{5}(x-0)$

3) $y+3=\frac{1}{5}(x+4)$ *or* $y+3=\frac{1}{5}(x-1)$

4) $y-1=\frac{6}{5}(x-5)$

5) $y+3=4(x-0)$

6) $y-4=-\frac{1}{8}(x+28)$ *or* $y-3=-\frac{1}{8}(x+20)$ *or* $y-2=-\frac{1}{8}(x+12)$ *or* $y-1=-\frac{1}{8}(x+4)$ *or* $y-0=-\frac{1}{8}(x-4)$ *or* $y+1=-\frac{1}{8}(x-12)$ *or* $y+2=-\frac{1}{8}(x-20)$

7) $y+5=3(x+1)$ *or* $y+2=3(x-0)$ *or* $y-1=3(x-1)$ *or* $y-4=3(x-2)$

8) $y+\frac{1}{9}=-\frac{7}{8}(x-0)$

9) $y+28=5(x+5)$ *or* $y+23=5(x+4)$ *or* $y+18=5(x+3)$ *or* $y+13=5(x+2)$ *or* $y+8=5(x+1)$ *or* $y+3=5(x-0)$ *or* $y-2=5(x-1)$

10) $y-5=-\frac{7}{5}(x+5)$

11) $y+2=-\frac{1}{3}(x-0)$ *or* $y+3=-\frac{1}{3}(x-3)$

12) $y-2=-\frac{1}{3}(x-0)$

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Answers to Rotation 4

1) $y = -\frac{6}{5}x + \frac{7}{5}$

2) $y + 3 = 2(x + 7)$

3) $y = \frac{8}{9}x + 10$

4) $y + 1 = -\frac{2}{5}(x - 2)$

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1) $y + 3 = -\frac{5}{2}(x - 1)$ 2) $y = \frac{1}{14}x - \frac{108}{7}$ 3) $y - 13 = \frac{2}{3}(x + 17)$ 4) $y = -5x - 7$

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3) $y + 3 = \frac{1}{5}(x + 4)$ *or* $y + 3 = \frac{1}{5}(x - 1)$
4) $y - 1 = \frac{6}{5}(x - 5)$
5) $y + 3 = 4(x - 0)$
6) $y - 4 = -\frac{1}{8}(x + 28)$ *or* $y - 3 = -\frac{1}{8}(x + 20)$ *or* $y - 2 = -\frac{1}{8}(x + 12)$ *or* $y - 1 = -\frac{1}{8}(x + 4)$ *or* $y - 0 = -\frac{1}{8}(x - 4)$ *or* $y + 1 = -\frac{1}{8}(x - 12)$ *or* $y + 2 = -\frac{1}{8}(x - 20)$
7) $y + 5 = 3(x + 1)$ *or* $y + 2 = 3(x - 0)$ *or* $y - 1 = 3(x - 1)$ *or* $y - 4 = 3(x - 2)$
8) $y + \frac{1}{9} = -\frac{7}{8}(x - 0)$
9) $y + 28 = 5(x + 5)$ *or* $y + 23 = 5(x + 4)$ *or* $y + 18 = 5(x + 3)$ *or* $y + 13 = 5(x + 2)$ *or* $y + 8 = 5(x + 1)$ *or* $y + 3 = 5(x - 0)$ *or* $y - 2 = 5(x - 1)$
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Answers to Rotation 6

1) The elevator is moving down; slope, or m.
2) $350 + 20 \cdot 6 = 470\,ft$
3) The y-coordinate of the y-intercept, or b.
4) $y = -20x + 470$; x represents the time in seconds since Monica got on the elevator, and y represents the height of the elevator above the ground in feet.
5) Monica's original height above the ground in feet.
6) At the ground floor, $y = 0$. Solve the equation $0 = -20x + 470$ to find $x = 23.5$ seconds.
7) \$7.50; The y-intercept is $(0, -7.5)$. It means that Matt pays \$7.50 even if he sells no books.
8) \$1.50; The slope is 1.5, so each time he sells one book, the earnings increase by \$1.50.
9) $y = 1.5x - 7.5$
10) 25 books; $y = 30$, so $30 = 1.5x - 7.5$, $37.5 = 1.5x$, $x = 25$.
11) $y - 54 = 3.5(x - 5)$
12) $y = 3.5x + 36.5$
13) \$36.50; when $x = 0$, $y = 36.5$.
14) \$61
15) 12
16) Rising; the slope is positive, so the height increases as time increases.
17) 40 feet per minute
18) 120 feet
19) $4x + 8y = 20$
20) 2.5; if Pedro only runs, he has to run for a total of 2.5 hours during the week.
21) \$15.50
22) \$3.50