Math 10

Lesson 4–6 Answers

**Lesson Questions**

**Question 1**

a) 

b) 

–4

2

4

–4

–2

2

4

–2

*x*

*y*

**Question 2**

.

**Question 3**

 

**Question 4**

 ?

The slope and *y*-intercept of the line are  and 3 respectively.

**Question 5**



a)

b)  The slope represents the price per ball thrown.

c) *b* = –300 The y-intercept represent the initial cost of the dunk tank.

d) The break-even point occurs when the profits equal zero (*y* = 0)



The break-over point occurs when 200 balls have been purchased.

**Question 6**

To join the local gym, Karim pays a start-up fee of $99, plus a monthly fee of $29.

a) 

b)



c)



d)



Since the calculated *n* value is not a whole number, the total cost could not be exactly $600.

**Assignment**

1. a) Slope: 4; *y*-intercept: –7

b) Slope: 1; *y*-intercept: 12

c) Slope: – ; *y*-intercept: 7

d) Slope: 11; *y*-intercept: – 

e) Slope: ; *y*-intercept: 0

f) Slope: 0; *y*-intercept: 3

2. a) 

b)

c)

d)

e)

3. Sketches may vary. For example:

a) b) c) d)

4. a)  b) c) d)

 e) f)

5. a) The student may have confused the values of the slope and the *y*-intercept.

b) *y* = 4*x* – 3

6. a) i) Slope: ; *y*-intercept: 2

ii)

iii) *y* = –3

b) i) Slope: 4; *y*-intercept: –6

ii) *y* = 4*x* – 6

iii) *y* = 34

c) i) Slope: ; *y*-intercept: 1

ii)

iii) *y* = 8.5

d) i) Slope: ; *y*-intercept: –2

ii)

iii) 

7. a) Slope: –80; the plane is descending at a speed of 80 m/min.

*h*-intercept: 900; when the plane begins its descent, it is 900 m above the lake.

b) *h* = –80*t* + 900

c) 460 m

d) i) The graph would be a line joining (0, 700) and (8, 0).

ii) *h* = –87.5*t* + 700

8. a) *C* = 0.80*n* + 20

b) $107.20

c) 125 songs

9. a) *y* = 4*x* + 1

b)

c)

10. a) Graph B b) Graph C c) Graph D d) Graph A

11. a) Graph C: slope 2 and *y*-intercept –5

b) Graph A: slope 1 and *y*-intercept 1

c) Graph B: slope 2 and *y*-intercept 5

d) Graph D: slope –1 and *y*-intercept –5

12. First, rearrange the equations into slope-intercept form:

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Parallel lines:

*y* = –5*x* – 7 and *y* = –5*x* + 13

*y* = 5*x* + 15 and *y* = 5*x* + 24

*y* = *x* + 9 and *y* = *x* + 21

*y* = – *x* + 15 and *y* = – *x*

Perpendicular lines:

*y* = –5*x* – 7 and *y* = *x* + 9

*y* = –5*x* – 7 and *y* = *x* + 21

*y* = –5*x* + 13 and *y* = *x* + 9

*y* = –5*x* + 13 and *y* = *x* + 21

*y* = 5*x* + 15 and *y* = – *x* + 15

*y* = 5*x* + 15 and *y* = – *x*

*y* = 5*x* + 24 and *y* = – *x* + 15

*y* = 5*x* + 24 and *y* = – *x*

13. *y* = – *x* + 4

14. *c* = –

15. *m* = –

16. a)  b) 

17. a)  b) 