**MATH 10C UNIT 5** **REVIEW** (Chapter 6 – Linear Functions)

2

4

6

-2

-4

-6

2

4

6

-2

-4

-6

*x*

*y*

**A**

**C**

**B**

**D**

**E**

1. Determine the slope and y-intercept for each line. Then write the equation of the line in slope-intercept form.

LINE A: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

LINE B: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

LINE C: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

LINE D: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

LINE E: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. A line perpendicular to line A in question #1 passes through the point (4, -3). Write the equation of this line in slope-point form.

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3. A line parallel to line C in question #1 passes through the point (-2, 2). Write the equation of this line in slope-point form.

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4. A straight line graph passes through points P(3, 1) and Q(-5, 5). Write the equation of this line in slope-intercept form.

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5. A line with a slope of  passes through the point (0, -4). Write the equation of this line in slope-intercept form.

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6. A line with a slope of 3 passes through the point (2, 6). Write the equation of this line in general form (A*x* + B*y* + C = 0.)

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7. An access ramp has a rise of 6 inches for each run of 9 feet.

a) What is the slope of the ramp? (Hint – watch units!)

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b) The ramp’s total length is 30 feet. How much higher is the top of the ramp than the bottom?

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8. Write the equation of each line in general form.

a) *y* – 2 = 5(*x* + 1)

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b) 

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2

4

6

-2

-4

-6

2

4

6

-2

-4

-6

*x*

*y*

**C**

**D**

**A**

**B**

9. Pneet says that the figure to the right is a rectangle; Dylan disagrees. Who is right? Use mathematics to prove your answer.

10. Highway 16, an expert ski run off the Canadian Rockies Quad Chair at Marmot Basin, has a section with a slope of 55%. If you ski a horizontal distance of 40m for this section, what is your change in elevation?

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11. A line has a slope of 4 and an x-intercept of -3. Write the equation of the line in slope-intercept form.

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12. The general form of the equations of two linear functions are given below. Draw the graphs of the functions on the grid to the right.

4

8

12

-4

-8

-12

4

8

12

-4

-8

-12

2*x* – 3*y* + 8 = 0

10*x* + 5*y* – 9 = 0

13. Randi’s dad rents a floor saw from a local building centre. The rental includes a fixed charge of $60, plus $15 for each hour the saw is rented. Use *C* to represent the total cost of renting the saw, and *h* to represent the number of hours the saw is rented.

a) Write a linear function that describes this relation.

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b) Randi’s dad ends up paying $120 for his use of the saw. How many hours was the rental?

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14. Mrs. Rendere has a part-time job in a furniture store. Her pay is partly fixed and partly depends on the value of the furniture she sells. In November, her pay was given by *s* = 1100 + (0.05)*v*, where her total pay is *s* dollars and the value of the furniture sold is *v* dollars.

a) What was her pay if she sold a total of $6450 worth of furniture in November?

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b) In December, her total pay was $1547.50. What value of furniture did she sell?

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