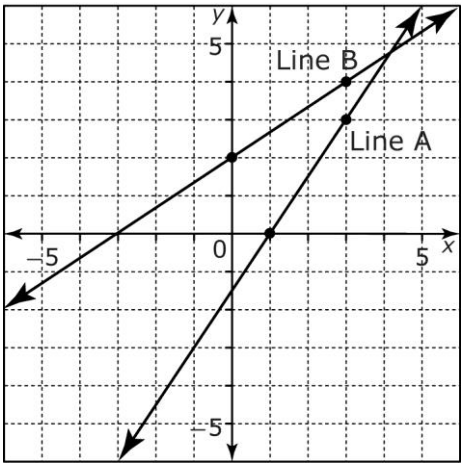
Name: _____ Date: _____

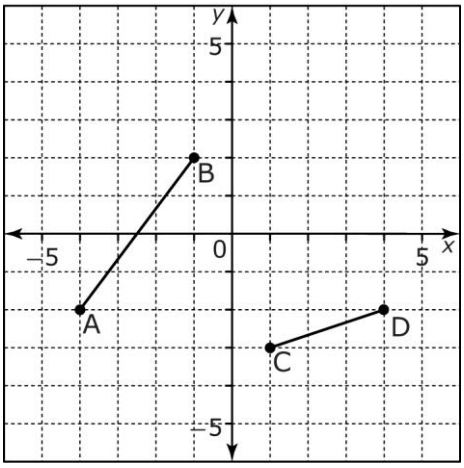
Section 6.1 Assignment

1. What are the rise and run of each line?



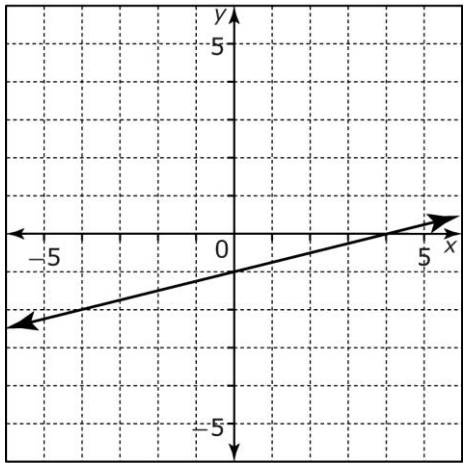
Line A: _____ Line B: _____

2. Determine the slope of each line segment.



Line AB _____ Line CD _____

3. Determine the slope of the line shown.



Slope: _____

4. Suppose the slope of a line is 4:3 and the run is 12 cm. What is the rise of the line?

5. A ramp is 5 feet along the ground and reaches a front step that is 2 feet above the ground. What is the slope of the ramp?

6. Solve each proportion.

a) $\frac{1}{8} = \frac{x}{24}$

b) $\frac{x}{18} = \frac{2}{3}$

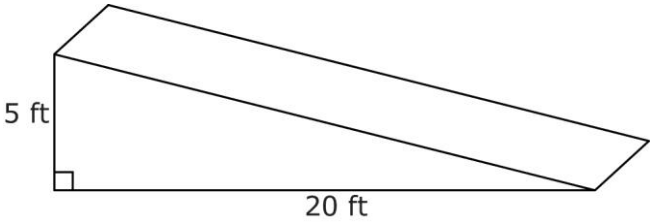
c) $\frac{1}{7} = \frac{10}{x}$

d) $\frac{18}{6} = \frac{3x}{5}$

7.Complete the table. **Hint:** The rise and run must be in the same unit of measure before you calculate the slope.

Rise	Run	Slope
a) 2 in.	1 ft	
b) 6 in.	$3\frac{1}{2}$ ft	
c) 10 cm	3 m	
d) 200 cm	1 m	

8.What is the slope of the ramp?



9. A ramp rises 1 metre for every 2 metres horizontally.

a) What is the slope of the ramp?

b) If the top of the ramp is 90 cm high, what is the distance along the ground?

10. A driveway rises 25 in. for every 250 in. of horizontal distance. Determine the slope of the driveway. Express the slope

a) as a fraction

b) as a decimal

11. Two ski slopes are measured for steepness. The Eastern Trail has a vertical distance of 60 m and a horizontal distance of 160 m. The Western Trail has a vertical distance of 110 m and a horizontal distance of 330 m. Which ski slope is steeper?

12. A staircase has steps with a riser height of 8 inches and a tread length of 10 inches.

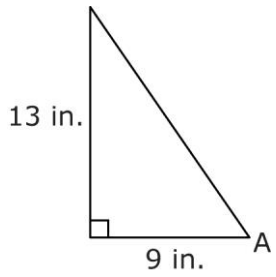
a) What is the slope of each step?

b) What is the slope of the staircase?

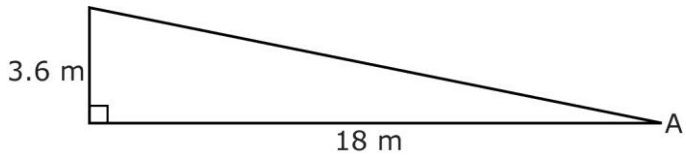
Section 6.2 Assignment

1. Determine the tangent ratio and measure of $\angle A$ in each triangle.

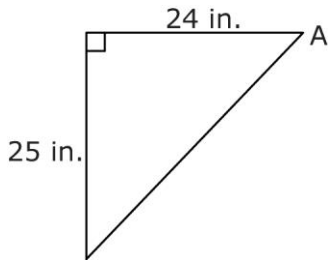
a)



b)

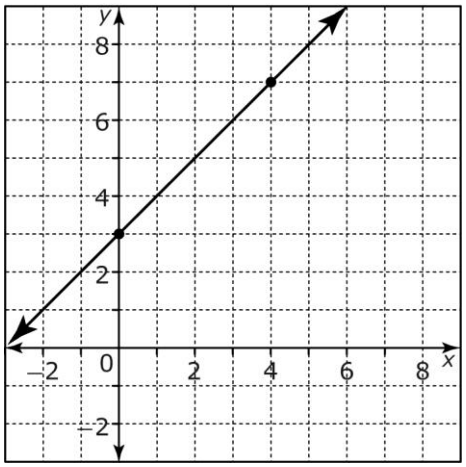


c)

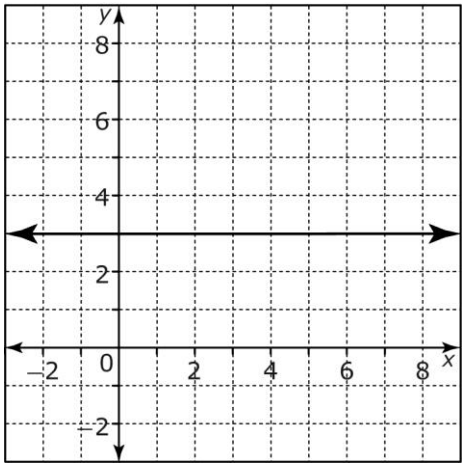


2. Determine the slope of each line.

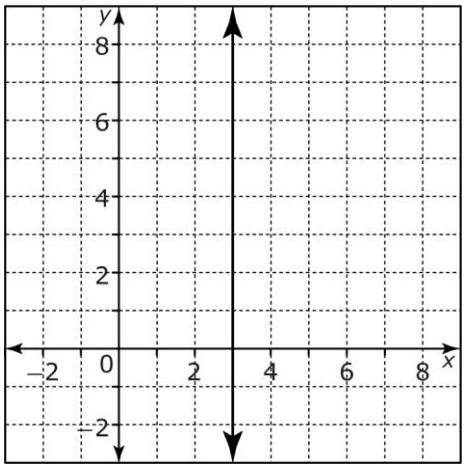
a)



b)



c)



3. For each graph in #2, determine the measure of the angle of elevation. Express each answer to the nearest degree.

4. Suppose each line in #2 represents a road.

a) Which road would be the easiest to travel?

b) Which road would be impossible to travel? Why?

5. What angle does a ramp with a slope of 1:15 make with the ground?

6. A ramp has a steepness of 1 in. for every 20 in. of run.

a) For the ramp to rise 1 ft, how far along the ground should it be?

b) What is the angle of elevation of the ramp?

7.a) Explain the meaning of the sign shown.

b) Write the slope of the road as a fraction.

8. Determine the angle of elevation of a road with each grade. Express your answers to the nearest degree.

a) 10%

b) 3%

c) 8%

d) 25%

9. A driveway rises 6 inches over 90 inches along the ground. What is the grade of the driveway?

10. The table shows details of the grades of roads. Complete the table. Express slope as a decimal to the nearest hundredth.

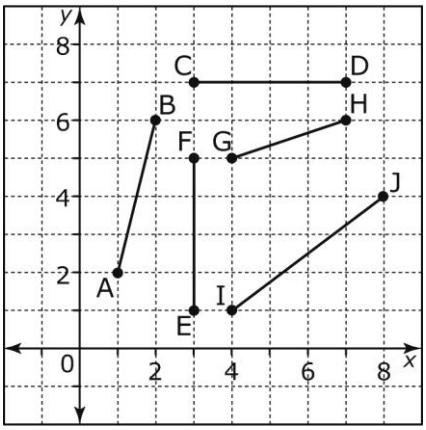
Road	Rise	Run	Slope as a Fraction	Slope as a Decimal	Percent Grade
Atlantic Avenue	200	1000			
Bay Bypass	6	50			
City Crescent			$\frac{23}{80}$		
Downtown Drive			$\frac{2}{25}$		
Harbour Highway				0.09	
Rural Road				0.2	
Suburb Speedway					2%
Tickle Trail					7.5%

11. Refer to the table you completed in #10. Warning signs are required for roads with grades of 6% or higher.

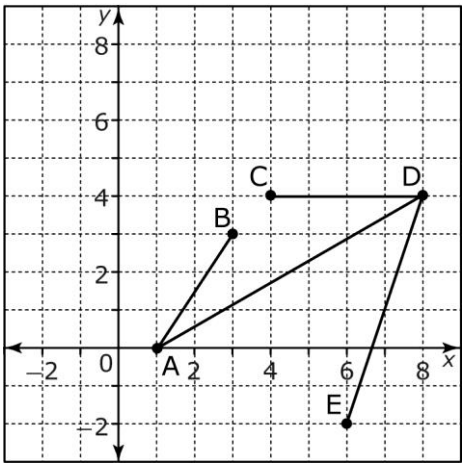
Which roads require a warning sign?

Section 6.3 Extra Practice

1. a) Determine the slope of each line segment.



2. Determine the slope of each line segment.



a) AB **b)** AD **c)** CD **d)** DE

3.Examine the table of values.

x	*y*
0	2
1	5
2	8
3	11
4	14

a) What is the change in the *x*-values from one row to the next?

b) What is the change in the *y*-values from one row to the next?

c) What is the slope of the line that would connect these points on a graph?

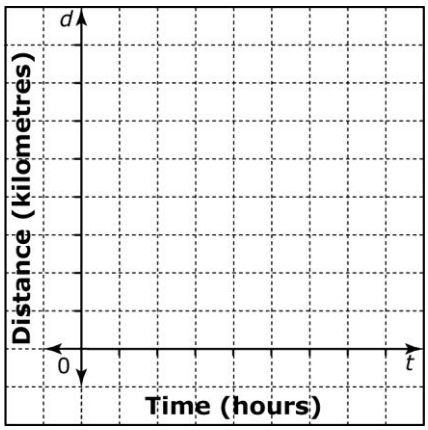
4. Determine the slope of the line in a graph of the data.

x	*y*
0	2
3	7
6	12
9	17
12	22

5.The average speed of a bus going from Grand Falls Windsor to St. John's is 80 km/h. The table shows the distance travelled during each hour of the ride.

Time (h)	Distance (km)
1	80
2	160
3	240
4	320
5	400

a) Graph the data. Connect the points with a straight line.



b) What is the slope of the line?

c) How is the slope related to the rate of change in distance?

6. Sophie earns $26 for 2 h of gardening.

a) Complete the table.

Time Worked (h)	Amount Earned ($)	Rate of Change
0	0	
1	13	13 – 0 = 13
2	26	
3		
4		
5		

b) What is the rate of change in Sophie's earnings? Explain what this means.

c) Suppose Sophie gets an increase of $4 for 2 h. What is her new rate of change in earnings?

7. Water Street Tea pays $48 for 4 hours of work and pays $72 for 6 hours of work. Determine the rate of change in pay.

8. Does a graph of the data in each table show a constant slope? Explain.

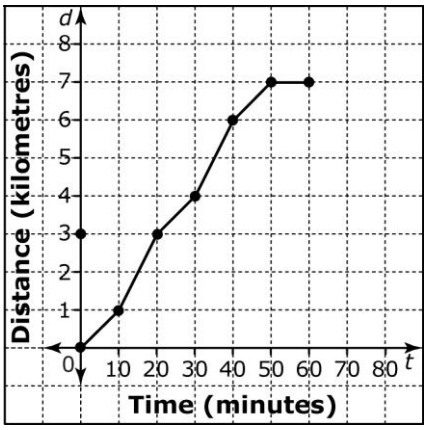
Table A

x	*y*
0	1
1	3
2	5
3	7
4	9

Table B

x	*y*
0	1
1	3
2	6
3	10
4	15

9. Paul runs once around Canoe Lake. The results of his run are shown in the graph.



a) Identify the intervals on the graph that have constant slope.

b) Determine the slope of each of these intervals.