Module 11 Quiz Review
Slope/Unit Rate/ Rate of Change

1. Solve for x.
$\frac{2}{x-4} = \frac{3}{2x+4}$

2. Solve for y.
$\frac{3}{y+7} = \frac{5}{8}$

3. Bus A travels 260 miles in 4 hours. The distance bus B travels can be expressed using the equation $y = 55x$. Which bus traveled at a faster rate?

4. A function can be represented by the table. Identify each of the functions that have a greater rate of change than the function in the table.

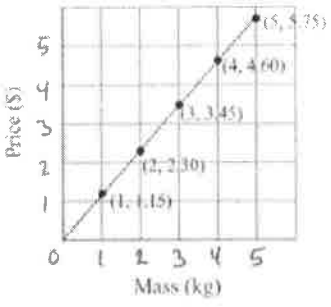
X	Y
1	6
2	12
3	18
4	24
5	30

a. $y = 4x + 7$
b. $y = 3x$
c. $y = 7x - 2$
d. $y = -4x$
e. $y = \frac{1}{3}x$
f. $y = 17x + 1$

Find the constant of proportionality. Then use the constant of proportionality to write an equation for the line that represents the situation.

5. Steve babysat one week for 8 hours and earned $64. The next week he babysat for 5 hours and earned $40.
6. A phone beeps 18 times every 6 minutes.

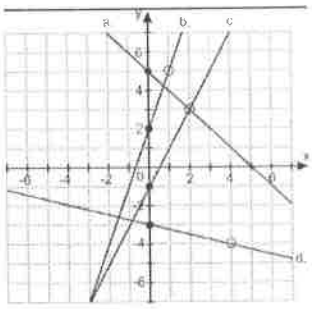
7. Use the graph to find the rate of change. Write an equation for the line.



Find the slope.

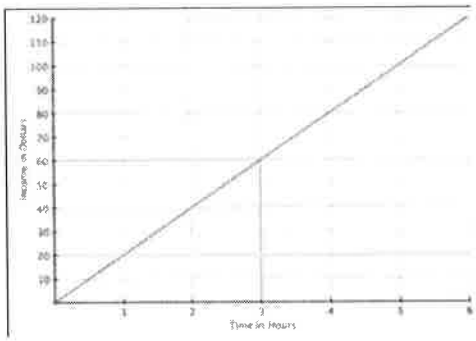
8. A line passes through the points (-2,7) and (5,1)
9. A proportional function passes through the point (8,2)
10. A balloon rises 7 feet every 2 seconds.

Use the graph to answer each question.

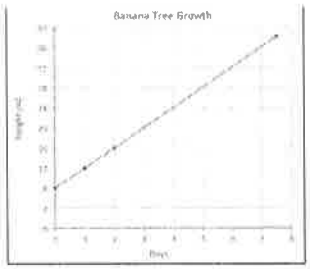


11. Describe the slope of each line (positive, negative, zero, undefined)
12. Find the slope of each line
13. Which line has the greatest rate of change?
14. Which line has the lesser rate of change?

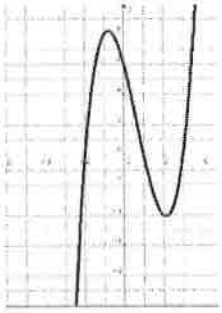
15. Using the graph, find the unit rate of the income per hour. Then find how much money someone would make after 9.5 hours.



16. Determine if each has a constant rate of change or a variable rate of change.
    a. $y = 4x$
    b. $y = 3x + 7$
    c. $y = 2x^2 - 9$
    d. A line that passes through the points (4,3), (6,5), and (7,2)
    e. A pizza company charges $4 for delivery plus $15 per pizza
    f. A pizza company does not charge for delivery, but charges $17 per pizza.
    g.



    h.



    i.

X	Y
1	6
2	12
3	18
4	24
5	30

Module 11 Quiz Review

1. $\frac{2}{x-4} = \frac{3}{2x+4}$

$2(2x+4) = 3(x-4)$
$4x+8 = 3x-12$
$-3x \quad -3x$
$x+8 = -12$
$-8 \quad -8$
$x = -20$

2. $\frac{3}{y+7} = \frac{5}{8}$

$24 = 5(y+7)$
$24 = 5y+35$
$-35 \quad -35$
$-\frac{11}{5} = \frac{5y}{5}$
$-\frac{11}{5} = y$

3. $\frac{260 \text{ mi.}}{4 \text{ hr.}}$ Bus A
65 mi/hr

Bus B $y = 55x$
55 mi/hr

Bus A is faster.

4. table $\frac{6}{1} = \frac{12}{2} = \frac{18}{3} = \frac{24}{4} = \frac{30}{5} = 6$

a. NO
b. NO
c. yes
d. no
e. no
f. yes

5. $\frac{64}{8} \quad \frac{40}{5} =$ #8/hr.

constant (k) of proportionality is 8.

$y = 8x$

6. $\frac{18}{6} = 3$ constant is 3

$y = 3x$

7. $\frac{5.75}{5}, \frac{4.6}{4}$

$1.15/kg

$y = 1.15x$

8. (-2, 7) (5, 1)

$\frac{7-1}{-2-5}$ or $\frac{1-7}{5-(-2)}$ $-\frac{6}{7}$

$\frac{6}{-7}$ or $\frac{-6}{7}$

9. $\frac{2}{8}$ (8, 2) $\frac{y}{x}$ $\frac{1}{4}$

10. $\frac{7ft}{2sec}$ $\frac{7}{2}$

11. line a negative
b positive
c positive
d negative

12. slope line a -1
b 3
c 2
d $-1/4$

13. line b
14. line a.

15. $\frac{\$60}{3\text{hr}} = \frac{\$20/\text{hr}}{}$

$\frac{20}{1} = \frac{x}{9.5}$

$x = \$190.00$

16. a. constant
b constant
c. variable
d. variable
e. variable
f. constant
g. constant
h. variable
i. constant

* make a table if you are not sure

(4,3)(6,5)(7,2) * constant rate of change is linear

$\frac{2}{2} = 1 \neq \frac{3}{-1}$

x	y	
1	6	+6
2	12	+6
3	18	+6
4	24	+6
5	30	

$\frac{6}{1} = \frac{12}{2} = \frac{18}{3} = \frac{24}{4} = \frac{30}{5}$