NAME: Period: Score: / = % =

HW 2-2

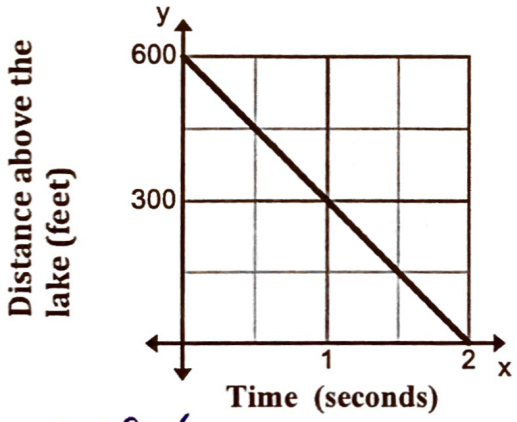
Int 2 — Constant Rate of Change — Unit 2

On each problem you need two answers.

a. **Find the rate of change for each situation (Answers must include units).**

b. **Determine whether the relationship is proportional and explain your reasoning.**

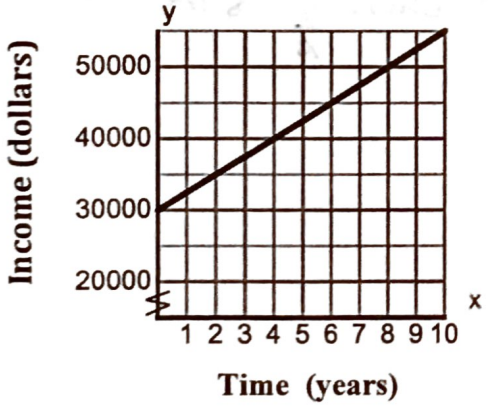
1. A Peregrine Falcon diving for a fish.



a. -300ft/1second

b. NO - doesn't cross through the origin

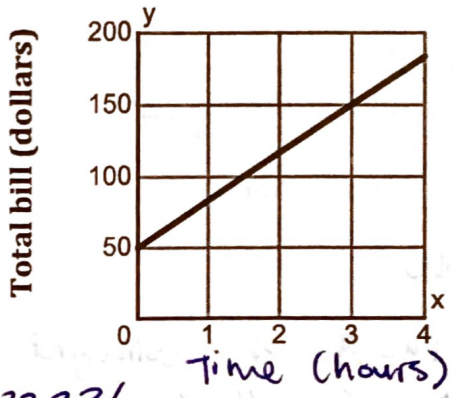
2. The income for a certain profession over time.



a.

b.

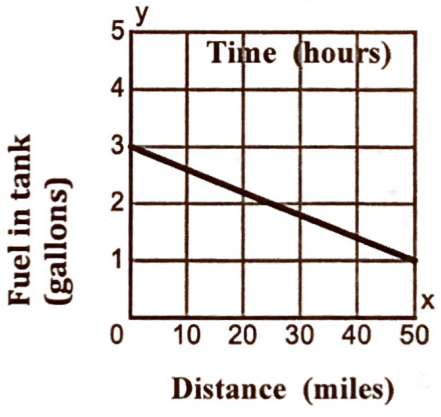
3. The amount you owe a plumber.



a. $33.33/1 hour

b. NO - doesn't cross through the origin

4. The amount of fuel remaining while traveling.



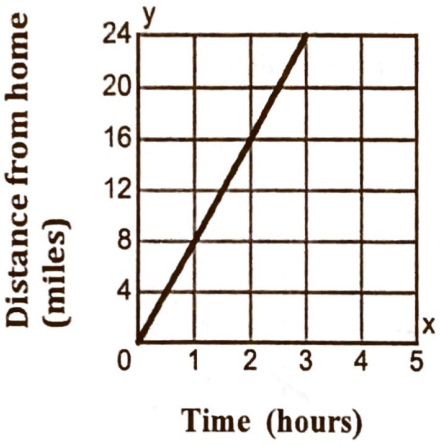
a.

b.

On each problem you need two answers.

a. **Find the rate of change for each situation (Answers must include units).**
b. **Determine whether the relationship is proportional and explain your reasoning.**

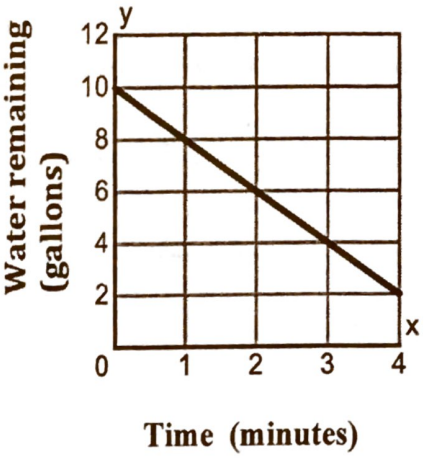
5. Your distance from home as you ride your bike.



a. 8 mph

b. yes - Has a CROC (straight line) & hits origin

6. A swimming pool draining.



a.

b.

7. Cost of using a computer at an Internet Café.

Time (hours) x	2	4	6
Cost (dollars) y	7	14	21

a. $3.50 per hour

b. yes - each $\frac{y}{x}$ is the same

8. Cost of renting a movie.

Time (days)	Total Cost (dollars)
4	6.00
5	8.25
6	10.50
7	12.75

a.

b.

On each problem you need two answers.

a. **Find the rate of change for each situation (Answers must include units).**

b. **Determine whether the relationship is proportional and explain your reasoning.**

9. Amount of time at an amusement park and admission fee.

Time (hours)	4	5	6
Admission Fees (dollars)	34.99	34.99	34.99

a. $0 per hour

b. NO, would not contain (0,0)

10. Calories burned.

Time (minutes)	40	60	80
Calories burned	500	750	1000

a.

b.

11. Cost of text messages.

Number of Texts	Cost
300	12.50
350	20.00
380	24.50
450	35.00
550	50.00

a. $0.15 per text

b. NO - each $\frac{y}{x}$ equals something Different.

12. After traveling for 4 hours, Michael was 280 miles from home. He had traveled 420 miles after 6 hours from the time he started traveling. What is his rate of change?

a.

b.

13. Josh started out with $15.50. After working for 3 hours, he had $32.00. How much did Josh receive per hour?

a. $5.50 per hour

b NO - at 0 hours he had $15.50 that is NOT (0,0).

On each problem you need two answers.

a. **Find the rate of change for each situation (Answers must include units).**
b. **Determine whether the relationship is proportional and explain your reasoning.**

14. At noon, there was 3 inches of snow. At 2:00 pm, there was 9 inches of snow. What is the rate of snowfall?

a.

b.

15. Kevin lives 3 miles away from the trail head. Starting from the trail head, it takes him 2 hours to get to the lake which is 11 miles from his house. Find his rate of change.

a. 4 mph

b. NO. at 0 hours he's 3 miles away.
That is NOT (0,0)

Find the slope.

16. (-4 , 7), (-10 , -8)

17. (9 , 16), (-3 , 6)

$\frac{5}{6}$

Solve the equation or inequality.

18. $\frac{12-5x}{4} \geq 8$

19. $4(3x + 7) - 13 = 6(3 + 2x)$

NO SOLUTION