Mind Stretch

Better Jobs

IDEA WAVE: List at least one fact or idea suggested by each figure, chart, or writing on the right. Some examples have been provided to help you think about your own fact or idea.

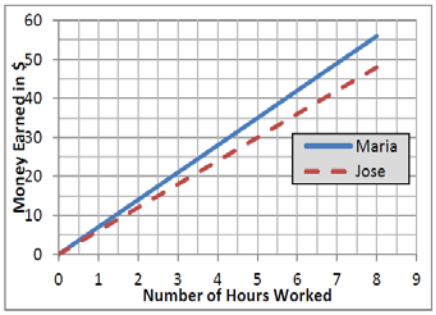
1. Example: Maria made $28 for 4 hours of work.

(Student answers will vary)

hours worked	$ earned by Maria	$ earned by Jose
0	0	0
1	7	6
2	14	12
3	21	18
4	28	24

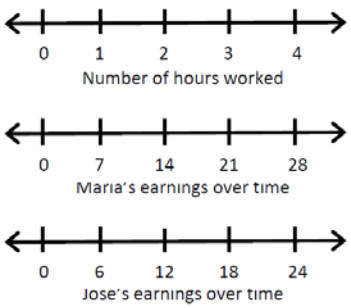
2. Example: Maria made about $50 for 7 hours of work.

(Student answers will vary)



3. Example: When Jose made $18, Maria made $21.

(Student answers will vary)



4. Example: Jose's rate (or unit rate) is less than Maria's.

(Student answers will vary)

$$\text{Earnings}_{\text{Maria}} = \frac{7\ dollars}{1\ hour} \times h\ hours$$

$$\text{Earnings}_{\text{Jose}} = \frac{6\ dollars}{1\ hour} \times h\ hours$$

[1] **Inspiration for Task:** Best Job Idea Wave adapted from materials shared by Diane Kinch. Workout and Final Lift tasks have been adapted from Illustrative Mathematics materials, particularly Who Has the Best Job task originally accessed on 5/1/2014, and is licensed by Illustrative Mathematics under CC BY-NC-SA 4.0.

This work was supported by grant number #DRL-1020393 from the National Science Foundation and grant number 2012-8075 from the William and Flora Hewlett Foundation.

Workout

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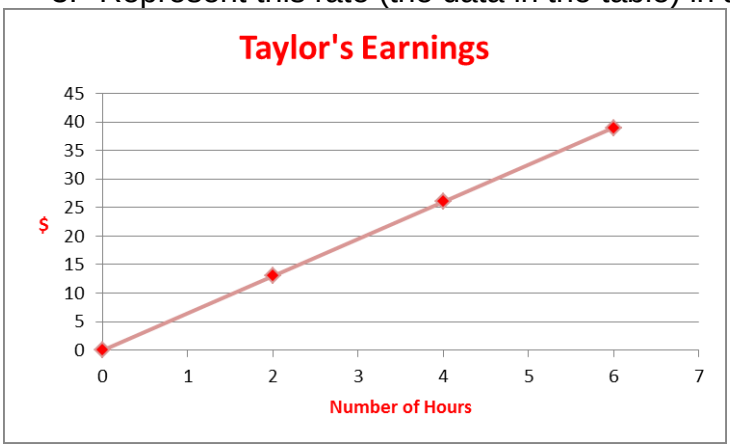
1. Taylor works every Saturday for two hours and earns $13. She created the table below to keep track of how much money she would earn if she worked different numbers of hours but got paid at the same rate for each hour. Fill in the missing values.

Number of Hours	1	2	3	4	5
Earnings (in $)	$6.50	$13	$19.50	$26	$32.50

2. Show how you would find how much Taylor would make for each hour she worked?

Divide her earnings by the number of hours she worked to get her unit rate (dollars per hour)

3. Represent this rate (the data in the table) in a graph.



4. Represent the data in the table as an equation.
   Earnings = ($ 6.50/hour) x (Number of Hours)

Check Your Pulse

Compare your answers with a partner. Discuss where you agree or disagree.

1. In a few words, explain what part(s) were difficult for you?

Circle the thumb that best describes how you are feeling:

	I have lots of questions, I need help.	Almost got it, but need practice.	Got it. I can explain this to a classmate.

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Final Lift

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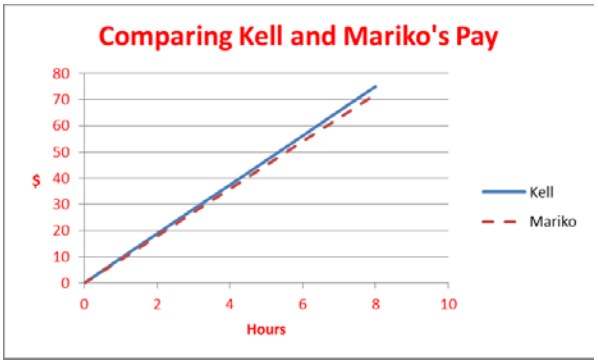
Kell works at Value Town. He earns $76 for every 8 hours he works. Mariko works at Supermart. She earns $9 per hour.

1. Write an equation to represent **each** of these situations. Use x for the number of hours worked and y for the total pay received. [Hint: What is the unit rate of pay for Kell and for Mariko?]

   Kell: $y_k = 9.5x$

   Mariko: $y_m = 9x$

2. Create a graph to show the two lines, y_k and y_m.



3. Who will earn more money for 40 hours of work? Explain how you know.

   Kell will earn more because he gets paid more per hour (his unit rate is higher). Kell will get paid $380 (9.5 x 40) and Mariko will get paid $360 (9 x 40).

4. Mariko gets a pay raise from $9 per hour to $15 per hour. Her manager gets a pay raise from $20 per hour to $30 per hour. Who gets a bigger raise? Explain your thinking!

   Mariko's pay goes from $9 up to $15, a $6 an hour raise in absolute dollars, but proportionally, a raise of 66 percent (6/9) above her previous pay.

   Her manager's pay goes from $20 to $30, a $10 an hour raise in absolute dollars, but proportionally, a raise of 50 percent (10/20) above their previous pay.

   Proportionally, Mariko gets a bigger raise.

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Challenge

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Supermart's CEO worked a lot of hours last year … and she was paid a big salary!

1. If the CEO worked 40 hours every week and worked 52 weeks during the year, how many hours did the CEO work in last year?

   (40 hours/week) x (52 weeks) = 2080 hours

2. If the CEO worked 2000 hours last year and was paid $35,000,000, how much would she have been paid per hour?

   $\frac{\$35,000,000}{2000 \text{ hours}} = \frac{\$17,500}{1 \text{ hour}}$

3. How does that hourly rate compare to the amount Mariko was paid?

   It is almost 2,000 times larger ($\frac{\$17,500}{\$9} = 1944.44$)

4. How much would Mariko earn for a full year (40 hours per week for 52 weeks)?

   $\left(\frac{9 \text{ dollars}}{1 \text{ hour}} \times \frac{40 \text{ hours}}{1 \text{ week}} \times \frac{52 \text{ weeks}}{1 \text{ year}} = 18{,}720 \text{ dollars}\right)$

5. How many Marikos would it take to earn approximately $17,000 in one hour?

   $\frac{\$17,500}{\$9} \approx \$1{,}889$

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