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Wording for the legal statement above is adapted from the legal statement for *Trigonometry*, published in 2009 by The cK-12 Foundation: <http://about.ck12.org/>

Paid by the Hour

1.6

Note: Need to start with Order Ops! (see “1.6 Order Ops” PPT lesson)

Discussion Prompts to Activate Prior Knowledge

a). How much is minimum wage?

b). If one job pays minimum wage, and another job pays $18,000 per year, how would you try to figure out which job pays more per year? (We’re not going to solve this problem right now—just share how you think we could try to solve it).

Teacher note:

Most of this section is designed for class discussion with whiteboards, rather than packets for student or group written work. That’s why there’s no space for students to show work on the paper. The questions below are printed big enough to use as blacklines when projecting them, ideally with a document camera. Students show their work on whiteboards, displaying their responses to you and each other to simulate discussion.

Teacher Note: consider showing only 1 new part of this question at a time.

1). SCENARIO: As a basketball referee for the youth league, you make $9 an hour.

|  |  |
| --- | --- |
| a). | How much money do you make after working 8 hours? Show work. |
| b). | How much money do you make after working 12 hours? Show work |
| c). | How much do you make after working 31 hours? |
| d). | Please describe in a complete sentence how to find out your earnings, if you know how many hours you’ll work. |
| e). | Let h = your hours worked. Write an **expression** for your total earnings. |

2). Draw lines to divide your whiteboard into 4 areas, like this:

Please **SHOW WORK** on each question below. You do not need to copy the questions.

SCENARIO: You are buying DVD’s at a store. DVD’s are $11.99 each.

A).

B).

C).

D).

How much would 17 DVD’s cost?

How much would it cost to buy 2 DVD’s per day, every day, for 3 weeks?

How many DVD’s could you buy with $183?

Let d = the number of DVD’s bought. Write an **expression** for the total cost.

Please divide your whiteboard like this:

3). SCENARIO: Pizzas are $6.50 each. Delivery is $4.00.

A).

How much does this cost? **SHOW WORK**.



B).

How much does this cost? **SHOW WORK**.



C).

Let p = the number of pizzas ordered. Please write an expression for the total cost.

Study This Example:

4). SCENARIO: A tree is 6 ft. tall when it’s planted. After that, it

grows at a rate of 1.2 ft/year.

For the repeated amount, explain your reasoning.

a). What’s the repeated amount?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What’s the one-time amount?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b). How tall will it be 1 year after it’s planted?

c). How tall will it be 3 years after it’s planted?

d). How tall will it be 7 years after it’s planted?

Practice: (pass out student handouts)

|  |  |  |
| --- | --- | --- |
| 5). | SCENARIO: At lunch, Jerome is eating chicken nuggets. There are about 47 calories per nugget. He has already eaten a McDonald’s McDouble, which has 390 calories. | |
|  | a). | How many total calories will he have eaten after 2 nuggets? |
|  | b). | How many total calories will he have eaten after 6 nuggets? |
|  | c). | How many total calories will he have eaten after 12 nuggets? |
|  | d). | Let x = the number of nuggets he eats. Write an expression for the total calories consumed. |

\*\*Note: The total amount of cholesterol in a McDouble and 12 chicken nuggets is 170 mg. The government recommends eating less than 300 mg of cholesterol in a day. So in one meal, you would have eaten over half your day’s cholesterol. Sources: <http://nutrition.mcdonalds.com/nutritionexchange/nutritionfacts.pdf> and <http://www.health.gov/dietaryguidelines/dga2005/recommendations.htm>, retrieved 7/1/10.

|  |  |
| --- | --- |
| Example: | |
| 6). | SCENARIO: When the whistle is blown, Angelique is 2 ft. from the coach. She starts sprinting away at about 19 ft/s.     1. What is the repeated amount? \_\_\_\_\_\_\_\_\_\_    * How do you know? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. What is the one-time amount? \_\_\_\_\_\_\_\_\_\_ 3. How far from the coach will Angelique be after 8 s? (Show work). 4. How far from the coach will Angelique be after 17 s?   (Show work).   1. Let *t* = the time (in seconds) that Angelique has been running. Write an expression for her distance from the coach. |

|  |  |
| --- | --- |
| Practice: | |
| 7) | SCENARIO: Jamar is saving up to buy an Xbox. Every day he makes sure to save another $3. He also knows he’s going to get $50 for his birthday.     1. What is the repeated amount? \_\_\_\_\_\_\_\_\_\_    * How do you know? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. What is the one-time amount? \_\_\_\_\_\_\_\_\_\_ 3. How money will Jamar have saved after 15 days?   (Show work).   1. How money will Jamar have saved after 15 days?   (Show work).   1. Write an expression for the total savings. |