

Lesson 8: Continued

Sept 16, 2022

Word Questions.

When to Multiply : Recall:

to add the same number more concisely:

Key Words:

Salary:

→ \$15/hour

\$15 per hour

\$15 an hour

\$15 each hour

\$15 every hour

ex: $4 + 4 + 4 = 4 \times 3$
 3 times

ex: $15 + 15 = 30$

$15 \times 2 = 30$
 10 times

ex. $15 + 15 + 15 + \dots + 15$
 $15 \times 10 = 150$

You worked 10 hrs
 Rate

A t-shirt costs 10\$ each

You bought 5 t-shirts →

ex: $10 + 10 + 10 + 10 + 10$
 $10 \times 5 = 50$

Definition: Revenue - \$ that's yours (+)
 Expense - \$ that you owe
 ↳ \$ taken away from revenue

Question 1: Simplify the following mathematical expressions by rewriting the addition as multiplication.

a) Martin makes \$80 per week at work. He spends \$40/month on his phone and \$20 a month on food. The following expression represents how much money Martin could save per month: revenue

Salary per month

$$80 + 80 + 80 + 80 - (40 + 20)$$

$$80 \times 4 - (40 + 20)$$

← does it make sense w/

↳ both expenses are taken away, so put brackets

Expenses

- b) Ed owes \$150 dollars. He saves \$50/week. The following expression represents how much money Ed will have in 6 weeks if he plans to pay off his debt:

$$(50 + 50 + 50 + 50 + 50 + 50) - 150$$

$$50 \times 6 - 150 \quad \text{same as} \quad (50 \times 6) - 150$$

- c) Each week, Sally pays \$30 for groceries. The following represents how much money she will have spent in 2 months:

$$\begin{array}{l}
 \text{1 month} \quad \text{1 month} \\
 \text{---} \quad \text{---} \\
 (30 + 30 + 30 + 30) + (30 + 30 + 30 + 30) \\
 \uparrow \\
 \text{1 week} \quad 30 \times 4 \times 2
 \end{array}
 \quad \Bigg| \quad
 \begin{array}{l}
 \text{2 times} \\
 \text{---} \\
 (30 \times 4) + (30 \times 4) \\
 (30 \times 4) \times 2
 \end{array}$$

- d) Fiona bought 3 hats that cost \$25 each and received \$10 discount on the total purchase. The following represents how much money she paid the clerk:

$$\begin{array}{l}
 (25 + 25 + 25) - 10 \\
 25 \times 3 - 10
 \end{array}
 \quad \text{or} \quad
 (25 \times 3) - 10$$

Question 2: Without calculating the answer, transform the following word problems in mathematical expressions (approximate).

- a) I spend \$30/week in groceries. How much do I spend per month in groceries? → there are 4 weeks in a month

$$30 \times 4$$

$$\begin{array}{cccc} 1 \text{ week} & 2 \text{ week} & 3 \text{ week} & 4 \text{ w} \\ 30 & + & 30 & + & 30 & + & 30 \end{array}$$

Bonus: 30×4
there are 52 weeks in a year. How much do I spend per year in groceries?

$$30 \times 52 \text{ (weeks in a yr)}$$

Question 3: For each of the following questions, provide the expression that describes the situation and solve by showing all your work.

- a) Dan makes \$180 per week at work. He spends \$80/month on internet and \$30 a month on food. How much money Martin could save per month?

Expression: $180 \times 4 - 80 - 30$ or $180 \times 4 - (80 + 30)$

Calculations: $720 - 80 - 30$ \$610 \$610

Answer: $640 - 30$ \$610 \$610

$640 + (-30)$

total expenses

Not same as:
 $180 \times 4 - (80 - 30)$ \$620

① B
 ② E
 ③ { D
 M
 A }
 ④ { S
 or } do opt on left when choice between 2 subtractm

You do:

- Finish handout
- Finish other unfinished handouts
- Start practice pretest and make sure to check each answer :-)

16	IN-PERSON - Integers - Practice Pre-test (Finish Memory Aid)
19	IN-PERSON - Integers - Self-Correct/Take-up Practice Pre-test (Finish Memory Aid)
20	Integers - Pre-test (only memory aid)
21	Integers - Take-up Pre-test
22	Integers - Practice Pre-test
23	IN-PERSON - Integers - Self-Correct/Take-up Practice Pretest
26	IN-PERSON - Integers - EXAM
27	PICTURE ID DAY Integers - Take-up EXAM

