

ROUGH DRAFT

Expressions and Equivalence

BRIDGE BUNGEEES

INCOME:

- \$80 for a single bungee jump
- \$20 for video of jump (25% of jumpers purchase)

EXPENSES:

- Rent is \$3,000 each month
- Employee wages are \$24,000 each month
- Utilities are \$500 each month
- Insurance costs \$10 per jumper



1. Pricing information for Bridge Bungees is shown above. Find the monthly income, expenses, and profit for a month when the business has ...
 - a. ... 20 jumpers.
 - b. ... 52 jumpers.
2. Write expressions for monthly income, expenses, and profit for Bridge Bungees based on how many jumpers (j) they have that month.
3. How many jumpers does Bridge Bungees need each month in order to make a profit?
4. Which, if any, of these expressions are equivalent to each other? How do you know?

$$15x - (12 + 7x)$$

$$4(2x - 12)$$

$$8x - 12$$



PUZZLE OF THE WEEK

1, 2, 3, 4

1 $\frac{4 + 1}{3 + 2}$

.....

2 $\frac{4 \times 2}{3 + 1}$

.....

3 $(2 \times 3) - (4 - 1)$

.....

4 $2^3 - (4 \times 1)$

.....

5 $12 - (3 + 4)$

.....

6 ...

A 1-2-3-4 expression is any expression written using each of the digits 1, 2, 3, and 4 **exactly once**.

In the examples above there are 1-2-3-4 expressions that, when evaluated, have values of all of the numbers 1 through 5.

Here are some questions you might choose to pursue in this POW:

Can you find 1-2-3-4 expressions with values of all numbers up to 20? Up to 40?

How many ways can you find to create each number 1-10 as a 1-2-3-4 expression?

Are there any numbers that you think are impossible to create as 1-2-3-4 expressions?