

Lesson #5 title: PART 5 = More practice using BEDS to solve for the variable in the equation

Date:

THROUGH-LINE: Order – discovering

When performing mathematical operations use the 'BEDS' acronym (BRACKETS, EXPONENTS (gr7), MULTIPLY or DIVIDE whichever comes first, ADD or SUBTRACT whichever comes first). (Example:  $10 - 2 \times 3 = 4$  not 24)

OUTCOMES:

1. Apply the order of operations, excluding exponents, to solve multistep problems with and without technology (limited to whole numbers).

MATERIAL NEEDED: highlighters, pencil, blue pen, calculator

Example #1: Solve for the unknown variable using BEDS. DO NOT SOLVE IN YOUR HEAD!!!

$$42 \div (55 - 8 \times 5 - 3 \times 3) = 5 + 13 + 2 \times 4 - 13 - v$$

$$42 \div (55 - 40 - 3 \times 3) = 5 + 13 + 8 - 13 - v$$

$$42 \div (55 - 40 - 9) = 18 + 8 - 13 - v$$

$$42 \div (15 - 9) = 26 - 13 - v$$

$$\frac{42 \div 6}{7} = 13 - v$$

$$7 = 13 - v$$

Final answer: So  $v =$

6

Example #2: Solve for the unknown variable using BEDS. DO NOT SOLVE IN YOUR HEAD!!!

$$\begin{aligned} \diamond + 5 + \underline{9 \times 6} &= \underline{4 \times 4} + 3 + 6 \times 4 + \cancel{16} && 17 \\ \diamond + \underline{5 + 54} &= 16 + 3 + \underline{6 \times 4} + \cancel{16} && 17 \\ \diamond + 59 &= \underline{16 + 3} + 24 + \cancel{16} && 17 \\ \diamond + 59 &= \underline{19} + 24 + \cancel{16} && 17 \\ \diamond + 59 &= \underline{43} + \cancel{16} && 17 \\ \diamond + 59 &= && 59 \quad 60 \end{aligned}$$

Final answer: So  $\diamond = 0$

Example #3: Because equations are forever in your life, create an equation for this story, and then solve.

All the grade 6 students are going by bus on a field trip to the local museum. Altogether, 440 students, 12 teachers, and 28 parents will be attending. Each bus can hold 48 people. How many buses are needed?

Equation:  ~~$440 + 12 + 28 = 480$~~   
 ~~$(480) \div 48 = 10$~~   
 Final answer:  ~~$10$~~

L2(3)

YOUR TURN 😊

#1: Solve for the unknown variable using BEDS. DO NOT SOLVE IN YOUR HEAD!!!

$$\underline{2 \times 2} \times 2 \times 2 \times 2 \times 2 = n \times n$$

$$\underline{4} \times 2 \times 2 \times 2 \times 2 = n \times n$$

$$\underline{8} \times 2 \times 2 \times 2 = n \times n$$

$$\underline{16} \times 2 \times 2 = n \times n$$

$$\underline{32} \times 2 = n \times n$$

$$\underline{64} = n \times n$$

Final answer: So n =

8

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#2: Solve for the unknown variable using BEDS. DO NOT SOLVE IN YOUR HEAD!!!

$$2 + \underline{3 \times 4} - 5 = 3 \times b$$

$$2 + \underline{12} - 5 = 3 \times b$$

$$\underline{14} - 5 = 3 \times b$$

$$9 = 3 \times b$$

Final answer: So b =

3

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#3: Solve for the unknown variable using BEDS. DO NOT SOLVE IN YOUR HEAD!!!

$$4 + e = \underline{(3 + 2)} + 4$$

$$4 + e = \underline{5} + 4$$

$$4 + e = 9$$

Final answer: So e =

5

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#4: Solve for the unknown variable using BEDS. DO NOT SOLVE IN YOUR HEAD!!!

$$12 \div f = \underline{24 \div 4}$$

$$12 \div f = 6$$

Final answer: So f =

2

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L2(5)

#9: Solve for the unknown variable using BEDS. DO NOT SOLVE IN YOUR HEAD!!!

$$1 + \square = 3 + \underline{2 \times 2} + 2$$

$$1 + \square = \underline{3 + 4} + 2$$

$$1 + \square = \underline{7} + 2$$

$$1 + \square = 9$$

Final answer: So  $\square = 8$

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#10: Solve for the unknown variable using BEDS. DO NOT SOLVE IN YOUR HEAD!!!

$$h = 2 \times \underline{(1 + 2)} - 3$$

$$h = \underline{2 \times 3} - 3$$

$$h = \underline{6} - 3$$

$$h = 3$$

Final answer: So  $h = 3$

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#11: Solve for the unknown variable using BEDS. DO NOT SOLVE IN YOUR HEAD!!!

$$\underline{5 \times 8} - 12 \div 6 + 4 = \square$$

$$40 - \underline{12 \div 6} + 4 = \square$$

$$\underline{40} - 2 + 4 = \square$$

$$38 + 4 = \square$$

Final answer: So  $\square = 42$

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