17/09/20

WALT solve and create mixed operation problems, using BIDMAS

Respond to purple marking

In Focus

Use the six numbers (once each), any operations + − × ÷ and at most one pair of brackets.

Can you obtain each of the answers 1, 2, 3, 4 and so on in this way?

Challenge: What is the highest possible number that you can make using all digit cards and any operations?

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Let's Learn

1  wrote this expression:

$6 + 5 - 1 - 2 - 3 - 4$

TTYP:

What do you think the answer for this expression is?

Is there another way to get the answer 1?

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Let's Learn

1  wrote this expression:

$6 + 5 - 1 - 2 - 3 - 4$

When there are only + and −, calculate from left to right.

$6 + 5 - 1 - 2 - 3 - 4 = 1$

$6 + 5 = 11$

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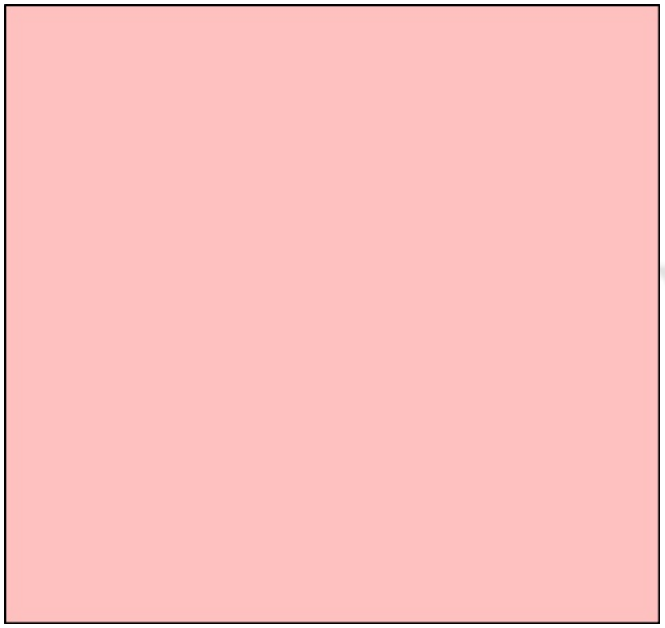
2  wrote this expression:

$3 \times 4 + 2 - (6 + 5 + 1)$



TTYP:

What do you think the answer for this expression is?

Is there another way to get the answer 2?

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2  wrote this expression:

$3 \times 4 + 2 - (6 + 5 + 1)$

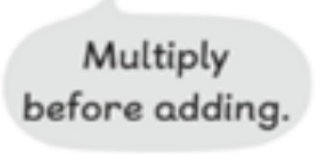
$3 \times 4 + 2 - (6 + 5 + 1)$

$= 3 \times 4 + 2 - 12$

$= 12 + 2 - 12$

$= 14 - 12$

$= 2$



$3 \times 4 + 2 - (6 + 5 + 1) = 2$

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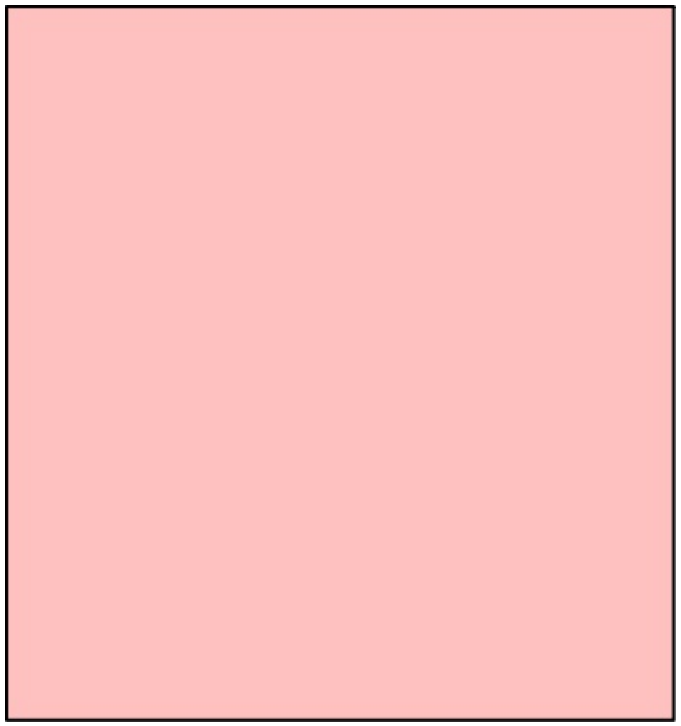
3  wrote this expression:

$2 \times 3 \times 6 \div 4 - 5 - 1$



TTYP:

What do you think the answer for this expression is?

Is there another way to get the answer 3?

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3 wrote this expression:

$2 \times 3 \times 6 \div 4 - 5 - 1$

For × and ÷, calculate from left to right.

$$
\begin{aligned}
& 2 \times 3 \times 6 \div 4 - 5 - 1 \\
= \; & 6 \times 6 \div 4 - 5 - 1 \\
= \; & 36 \div 4 - 5 - 1 \\
= \; & 9 - 5 - 1 \\
= \; & 3
\end{aligned}
$$

Subtract from left to right.

$2 \times 3 \times 6 \div 4 - 5 - 1 = 3$

Can you make an expression that has the value of 4? How about the values of 5 or 6?

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Guided Practice

1. Find the value of each of the following.

   (a) $4 \times 3 \div 2 + 1$ (b) $4 \times 3 \div (2 + 1)$ (c) $(4 \times 3) \div (2 + 1)$

2. Find the value of $4 + 8 \div 4 - 2$.

3. Insert one or two pairs of ( ) to make the equations correct.

   (a) $4 + 8 \div 4 - 2 = 1$

   (b) $4 + 8 \div 4 - 2 = 6$

   (c) $4 + 8 \div 4 - 2 = 8$

Challenge

Put **brackets** into this expression to make it correct.

$$10^2 \div 10 \div 10 \div 10 \div 10 = 100$$

Guided Practice

1. Find the value of each of the following.

2.

3.

Write the missing numbers to make these calculations correct.

$200 \times \square - 200 = 200$

$(100 - \square) \times 100 = 100$

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Guided Practice

1. Find the value of each of the following.

   (a) $4 \times 3 \div 2 + 1$ (b) $4 \times 3 \div (2 + 1)$ (c) $(4 \times 3) \div (2 + 1)$

2. Find the value of $4 + 8 \div 4 - 2$.

3. Insert one or two pairs of ( ) to make the equations correct.

   (a) $4 + 8 \div 4 - 2 = 1$

   (b) $4 + 8 \div 4 - 2 = 6$

   (c) $4 + 8 \div 4 - 2 = 8$

Challenge

Put **brackets** into this expression to make it correct.

$$10^2 \div 10 \div 10 \div 10 \div 10 = 100$$

Guided Practice

1. Find the value of each of the following.

   (a) $4 \times 3 \div 2 + 1$ 7 (b) $4 \times 3 \div (2 + 1)$ 4 (c) $(4 \times 3) \div (2 + 1)$ 4

2. Find the value of $4 + 8 \div 4 - 2$. 4

3. Insert one or two pairs of ( ) to make the equations correct.

   (a) $(4 + 8) \div 4 - 2 = 1$

   (b) $(4 + 8) \div (4 - 2) = 6$

   (c) $4 + 8 \div (4 - 2) = 8$

Write the missing numbers to make these calculations correct.

$200 \times \square - 200 = 200$

$(100 - \square) \times 100 = 100$

Complete Worksheet 2 - Page 19-20

Using Mixed Operations

1 Fill in the blanks.

(a) $7 + 6 - 5 + 4 - 3 + 2 =$ ☐☐

(b) $7 + 6 - (5 + 4) - 3 + 2 =$ ☐☐

(c) $7 - 6 + (5 - 4) + 3 \times 2 =$ ☐☐

(d) $7 - 6 + (5 \times 4) - 3 \times 2 =$ ☐☐

(e) $(3 + 5) \times (6 + 4) - 7 \times 2 =$ ☐☐

(f) $3 + 5 \times 6 + (7 - 4) \times 2 =$ ☐☐

(g) $3 \times 5 - (6 + 7) - 4 \div 2 =$ ☐☐

(h) $3 \times 4 \div 6 \times (2 + 5) - 7 =$ ☐☐

(i) $5 + 5 \times 5 - 5 \div 5 =$ ☐☐

(j) $(5 + 5) \times 5 - (5 + 5) \div 5 =$ ☐☐

(k) $(5 \times 5) - (5 + 5) \div 5 =$ ☐☐

(l) $5 \times 5 - 5 - (5 + 5 + 5) \div 5 =$ ☐☐

2 Insert one or two pairs of ( ) to make the equations correct.

3 Using all the numbers and signs below, form three different expressions and then evaluate each expression.

6	4	2	(	)	×	+

(a)

(b)

(c)

Complete Worksheet 2 - Page 19-20

Using Mixed Operations

1 Fill in the blanks.

(a) $7 + 6 - 5 + 4 - 3 + 2 =$ 11

(b) $7 + 6 - (5 + 4) - 3 + 2 =$ 3

(c) $7 - 6 + (5 - 4) + 3 \times 2 =$ 8

(d) $7 - 6 + (5 \times 4) - 3 \times 2 =$ 15

(e) $(3 + 5) \times (6 + 4) - 7 \times 2 =$ 66

(f) $3 + 5 \times 6 + (7 - 4) \times 2 =$ 39

(g) $3 \times 5 - (6 + 7) - 4 \div 2 =$ 0

(h) $3 \times 4 \div 6 \times (2 + 5) - 7 =$ 7

(i) $5 + 5 \times 5 - 5 \div 5 =$ 29

(j) $(5 + 5) \times 5 - (5 + 5) \div 5 =$ 48

(k) $(5 \times 5) - (5 + 5) \div 5 =$ 23

(l) $5 \times 5 - 5 - (5 + 5 + 5) \div 5 =$ 17

2 Insert one or two pairs of ( ) to make the equations correct.

(a) $9 - (4 + 2) - 1 + 3 = 5$

(b) $(9 - 4) + 2 - (1 + 3) = 3$

(c) $(9 - 4) \times 2 - (1 + 3) = 6$

(d) $9 - 4 \times (2 - 1) + 3 = 8$

(e) $9 \div (4 - 1) \times (2 + 3) = 15$

3 Using all the numbers and signs below, form three different expressions and then evaluate each expression.

6	4	2	(	)	×	+

(a) $6 \times (4 + 2) = 36$

(b) $(6 + 4) \times 2 = 20$

(c) $(6 + 2) \times 4 = 32$

Answers may vary.

Challenge

7(6÷3+2) – 10 x 2 + 1=

Work out the answer to the question above and write a step-by-step guide for a younger child about how you worked it out (BIDMAS)