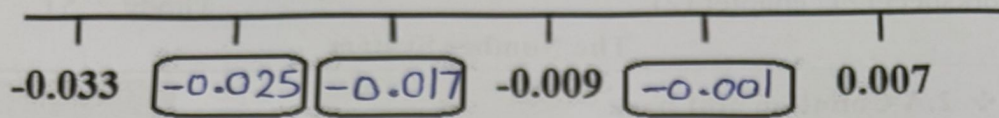
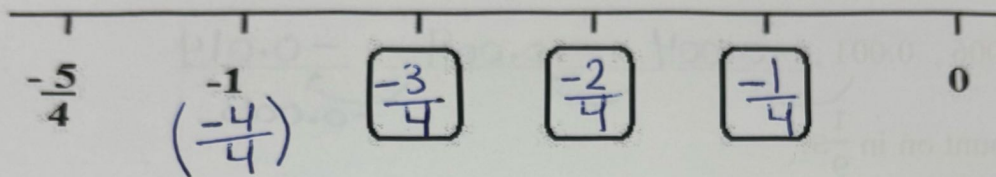


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b) Count on in 0.008s.



c) Count back in  $\frac{1}{4}$  s.



Q3: a) Write the missing numbers in the boxes to complete the sequence.

$$\frac{17}{7}, \frac{\boxed{13}}{\boxed{7}}, \frac{\boxed{9}}{\boxed{7}}, \frac{5}{7}, \frac{1}{7}, \frac{-3}{7}$$

Handwritten annotations above the sequence show a common difference of  $-\frac{4}{7}$  between consecutive terms, indicated by arrows and the fraction  $-\frac{4}{7}$  written twice.

b) The sequence continues in the same way.  
What is the first negative term in the sequence?

$$\frac{-3}{7}$$



Q4: Here are six measurements.

1.6 Kg, 2.2 Kg, 2.8 Kg, 2.5 Kg, 3.1 Kg, 1.9 Kg

a) Use the numbers given to form an increasing sequence.

1.6, 1.9, 2.2, 2.5, 2.8, 3.1

b) Describe the pattern you observed.

+0.3

Q5: The height of the sixth step in a pool is  $\frac{16}{3}$  m **below** the water level.

It increases  $\frac{2}{3}$  m each time.

a) How many meters below the water level is the first step?  $-\frac{6}{3}$

steps: 1st      2nd      3rd      4th      5th      6th  
 $-\frac{6}{3}$ ,  $-\frac{8}{3}$ ,  $-\frac{10}{3}$ ,  $-\frac{12}{3}$ ,  $-\frac{14}{3}$ ,  $-\frac{16}{3}$

b) Could the height of a step in the pool be  $\frac{7}{3}$  m below the water level?

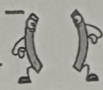
Why or why not?


$-\frac{7}{3}$  is between  $-\frac{8}{3}$  and  $-\frac{6}{3}$  of the sequence  
it cannot be a term in the sequence.


## ❖ 2.B Use the order of operations

Remember!

The rules for order of operations:

1. Work out the answer in brackets first. 

2. Multiply and divide from left to right. 

3. Add and subtract from left to right. 

Q6 :

While sorting some buttons, Trudy put 42 buttons in the first box, 50 buttons in the second box, 58 buttons in the third box, 66 buttons in the fourth box, and 74 buttons in the fifth box. If this pattern continues, how many buttons will Trudy put in the sixth box?

box: 1st, 2nd, 3rd, 4th, 5th, 6th  
42, 50, 58, 66, 74, 82 (+8)

82

Q7: Use the order of operations to fill in the blanks.

a)  $4 \times 22 \times 5 - 20$

$= 22 \times \underline{4} \times \underline{5} - 20$

Use the **commutative law** of multiplication.

$= 22 \times \underline{20} - 20$

Use the **associative law** of multiplication.

$= \underline{440} - 20$

Do **multiplication** before **subtraction**.

$= \underline{420}$

b)  $22 + 18 + 4 \times 2$

$= 22 + 18 + \underline{8}$

Do **multiplication** before **addition**.

$= 22 + \underline{8} + 18$

Use the **commutative law** of addition.

$= \underline{30} + \underline{18}$

$= \underline{48}$



$$c) 400 - 32 \times 12$$

$$= 400 - 32 \times \underline{10} - 32 \times 2$$

$$= 400 - \underline{320} - \underline{64}$$

$$= \underline{80} - \underline{64}$$

$$= \underline{16}$$

Use the **distributive law**.

Do **multiplication** before **subtraction**.

**Q8:** Use the **law of arithmetic** to solve the following equations.

$$a) 10 + 5 \times 28 \times 2 =$$

$$10 + 28 \times 5 \times 2 =$$

$$10 + 28 \times 10 =$$

$$\underline{10 + 280} = 290$$

$$b) 16 \times 5 - 60 =$$

$$(\underline{10+6}) \times 5 - 60 =$$

$$10 \times 5 + 6 \times 5 - 60 =$$

$$50 + 30 - 60 =$$

$$80 - 60 = 20$$

$$c) 110 \times 13 - 1400 =$$

$$(\underline{110 \times 10}) + (\underline{110 \times 3}) - 1400 =$$

$$\underline{1100 + 330} - 1400 =$$

$$\underline{1430} - 1400 = 30$$

$$d) 192 - 4 \times 9 \times 5 =$$

$$192 - 9 \times \underline{4 \times 5} =$$

$$192 - 9 \times 20 =$$

$$192 - 180 = 12$$

## ❖ 2.C Use Brackets

**Q9:** Draw a ring around the letters of the expressions that give the same answer.

$$(a) 2 \times (35 + 15) + 20$$

$$2 \times \underline{50} + 20$$

$$\underline{100 + 20} = 120$$

$$(c) 140 - (120 \div 6)$$

$$140 - 20 = 120$$

$$(b) (100 - 44) + 16 \times 4$$

$$\underline{56 + 16 \times 4}$$

$$\underline{56 + 64} = 120$$

$$d) (9 \times 8) - 12 \times 2$$

$$\underline{72 - 24} = 48$$

**Q10:** Mel has 38 blue pens and 22 green pens.

She puts all the pens equally into 2 drawers.

How many pens are there in each drawer?

This word problem can be solved using only one equation. Write the equation.

$$\frac{(38 + 22)}{2} \div 2$$

60  $\div$  2 = 30 pens in each drawer.

$$30 \text{ pens} / \frac{(38 + 22)}{2} \div 2$$

**Q11:** Insert brackets to make each statement true.

a)  $4 + 6 \times (9 + 3) = 76$

b)  $(70 - 20) \div 5 + 4 = 14$

c)  $6 \times 10 + (20 - 4) \times 3 = 108$



Q12: Saif works at a restaurant. He earns \$20 every hour.

He works on weekdays for 8 hours a day.

After working for 9 weeks, he will receive an additional payment of \$120.

How much will he earn in 9 weeks?

Hours per weekday = 8

Weekday per week = 5

Hours per week =  $5 \times 8 = 40$

In 9 weeks =  $9 \times 40 = 360$

Pay Per hour =  $360 \times \$20 = 7200$

\$ 7320

$7200 + 120 = 7320$

Q13: Dexter and Ron are completing the same calculation.



Dexter

$$6 + 4 \times 2 = 20$$

$$6 + 4 \times 2 = 14$$



Ron

Who is correct? Ron

Explain your answer.

First multiply then we add

**Q14:** Rasha goes shopping with £20.

She spends £4 on a book and buys 5 magazines each costing £3.

Tick the calculations that show how much money she has left in pounds.

$$20 - 4 + 5 \times 3$$

$$20 - (4 + 5) \times 3$$

$$20 - (4 + 5 \times 3)$$

$$20 - 4 - 5 \times 3$$

$$20 - 5 \times 3 + 4$$

$$20 - (5 \times 3 + 4)$$



Teachers: Rand Haddadin, Rand Haddad and Qusie Hijazeen