



1.



Junior Cert Maths

Free Notes

Rounding Off

Rounding Off

Firstly it's important to remember in what order we multiply, add, subtract, etc...

The order is

1. Brackets
2. Exponents (Roots and Powers)
3. Multiply or Divide
4. Add or subtract

Some people like to remember the word BEMDAS to help remember the order (Brackets Exponents Multiply Divide Add Subtract)

When rounding correct to the nearest whole number, we pay attention to the first decimal place. If it is 5 or greater we round it up to the nearest whole number. If it is less than 5 we round it down to the nearest whole number.

Look at the first decimal place

- 6.8 8 is greater than 5. Round up to 7.0
 9.2 2 is less than 5. Round down to 9.0
 5.5 If 5 is in the first decimal place we round up. Round up to 6.0

When rounding correct to one decimal place. We pay attention to the second decimal place

- 7.72 2 is less than 5. Round down to 7.70
 16.89 9 is greater than 5. Round up to 16.90
 4.55 5 is in the second decimal place so we round up. Round up to 4.60

Rounding off to 3 or 4 decimal places is done the exact same way

2.1

(i) By rounding correct to the nearest whole number, estimate the value of

$$\frac{3.8}{4.23} + (2.97)^3 \div \sqrt{9.16}$$

$$\frac{4}{4} + (3)^3 \div \sqrt{9}$$

$$1 + 27 \div 3$$

Divide before adding

$$1 + 9 = 10$$

(ii) Then, evaluate $\frac{3.8}{4.23} + (2.97)^3 \div \sqrt{9.16}$

correct to one decimal place.

We get

$$0.8983 + 26.198 \div 3.0265$$

Again divide first

$$0.8983 + 8.6562 = 9.554$$

Correct to one decimal place

$$= 9.6$$

2.2

(i) By rounding to the nearest whole number, estimate the value of

$$\frac{131.5 - 1.73 \times \sqrt{0.64}}{35.4 - (5.1)^2}$$

By rounding off we get

$$\frac{132 - 2 \times \sqrt{1}}{36 - (5)^2}$$

$$= \frac{130}{11}$$

$$= 11.818$$

$$= 11.82$$

(ii) Then, evaluate correct to two decimal places.

$$\frac{131.5 - 1.73 \times 0.8}{35.4 - 26.01}$$

Multiply before we subtract

$$\begin{array}{r} 131.5 - 1.384 \\ 35.4 - 26.01 \end{array}$$

$$= \frac{130.116}{9.39}$$

$$= 13.856869$$

Correct to two decimal places

$$= 13.86$$

2.3

Wendy estimates the value of $527 + 889 + 436$ by rounding to the nearest 100. Find the estimated value.

Round off 527 = 500

Round off 889 = 900

Round off 436 = 400

$$500 + 900 + 400 = 1800$$

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