REMEDIAL WORK GRADE 8 16/03/2020

QUESTION 1

1.1 Given the set $\{-5, -10, 7, 8, 9, 11, 20, 25\}$

1.1. Write down the multiples of 5

1.2 List the prime numbers

1.3. List the factors of 20.

1.4. List a square number.

QUESTION 2

2.1. $-20 + (-12)$

2.2. $(-3)^2 (-2)$

2.3. $\sqrt{36+64} + \sqrt[3]{8}$

2.4 $-40 \div 10 \times -2$

2.5. $-2 + 3 \times 6 - (-4)$

2.6. $-6^2 + (-2)^2$

QUESTION 3

3.1. Increase 280 in the ratio 3:4.

3.2. Decrease R120 in the 6:2

3.3. Simplify the following ratios.

a) 12 : 36 b) 25 : 3 km

3.4. There are 24 boys and 36 girls in a class.

a) What is the ratio of the number of boys to the number of girls?

b) What is the number of boys to the total number of learners in a class?

3.5. A car travels at a distance of 180 km in 2 hours on a straight road. How many kilometers can it travel at the same speed?

3.6. Sam bought a pen set for R160. She then sells it for R200. Calculate the % profit.

3.7. Calculate the following percentages.

a) 26% of 150 b) 17 out of 20

QUESTION 4.

4.1. $2^7 \times 2^5 \times 2$

4.2. $5a^2 \times 4a$

4.3. $8b^4 \div 2b^6$

4.4. $(7x^3)^0 + (5-2)^2$

4.5. $y^{17} \div y^4$

4.6. $17^0 \times 2$

4.7. $2a^2 \times a \times a^3$

4.8. $(3x^4)^3$

4.9. $(0,2)^3$

4.10. $\left(\frac{1}{3}\right)^2$

QUESTION 5

5.1. Write in scientific Notation.

a) 2 000

b) 56 000 000

c) 7251 000 000 000 000

5.2. Expand these numbers.

a) 4×10^5

b) $1,25 \times 10^9$

c) $3,654 \times 10^{11}$

QUESTION 6

6.1. The temperature rose by 15°C after snowing. If the maximum temperature recorded was 10°C, what was the minimum temperature?

GRADE 8 - PRE-INVESTIGATION

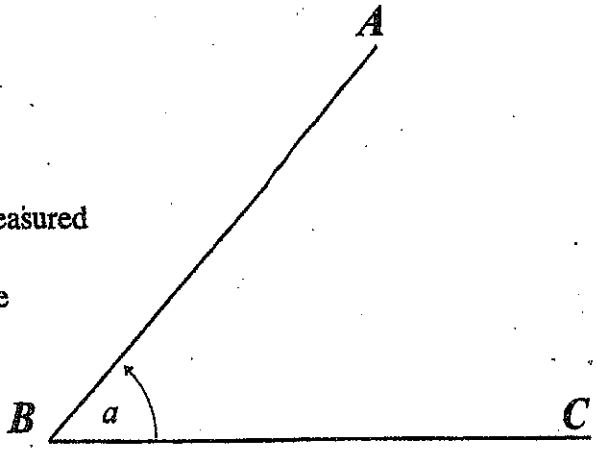
SKILL 2 MEASURING AND DRAWING ANGLES WITH A PROTRACTOR

Angles are measured and drawn accurately using a protractor, which is a clear plastic semicircle with marks showing the angles from 0 to 180.

Measuring angles

Example:

Use a protractor to measure this angle:



Step 1

Place the protractor over the angle to be measured so that:

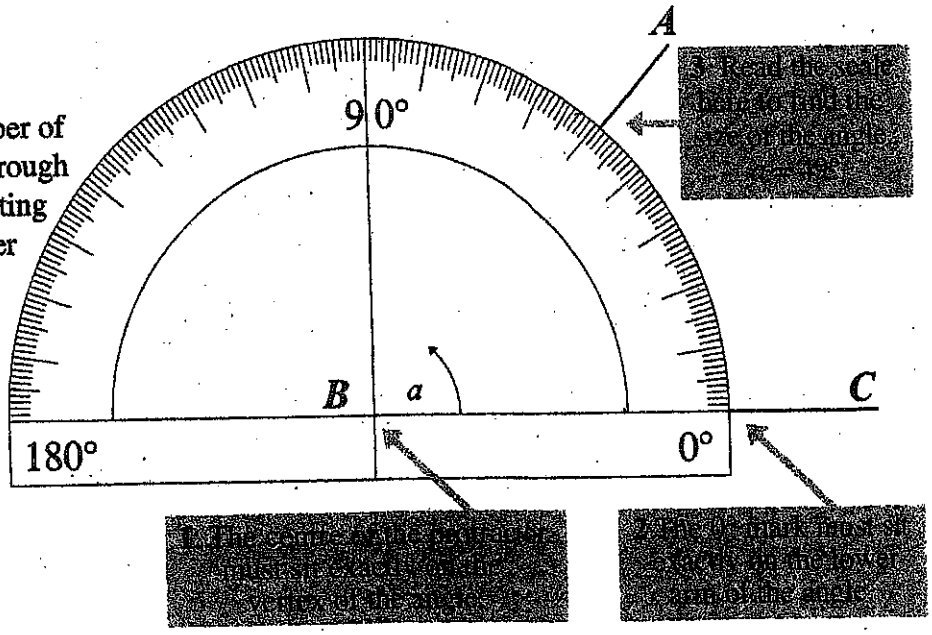
- the vertex of the angle sits in the middle of the protractor
- the lower arm of the angle points to the right

Step 2

Line up the protractor so that the lower arm sits on the 0 mark.

Step 3

Read the angle, counting the number of degrees it turns through anticlockwise starting from 0 to the other angle.



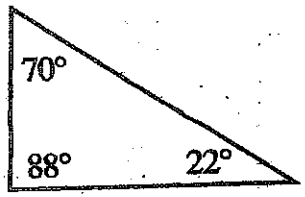
Investigating the Sum of the Angles in Δ and quadrilateral.

- Measure each angle in the triangle and write the sum.
- Measure each side of the triangle.
- Only measure the angles of the quadrilaterals and write the sum.

The following triangles are named according to the lengths of their sides. The marks on the sides show that they are equal in length.

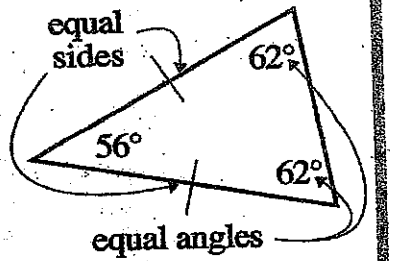
Scalene triangles

All sides have different lengths and all the angles are different.



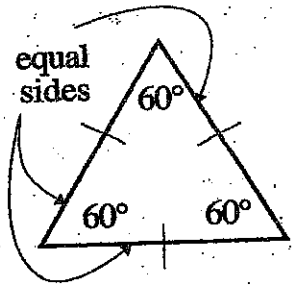
Isosceles triangle

Two sides have equal lengths and the angles opposite them are also the same.



Equilateral triangles

All three sides have the same length and all angles are also the same (60).



Finding missing angles in triangles

The three angles inside all triangles always add up to 180 . When the three angles are cut off any triangle and moved next to each other they will always form a straight angle. Follow this practical proof and try it yourself.

Step 1

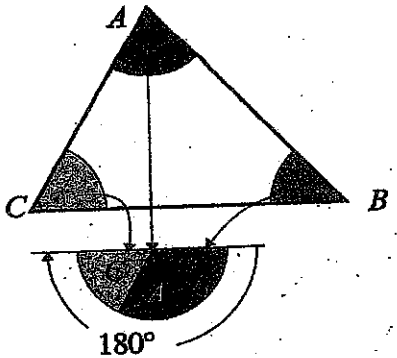
Draw a triangle.

Step 2

Colour each angle using different colours.

Step 3

Cut off each angle and assemble as in this diagram.
Measure the angle combination. It will always be 180 .



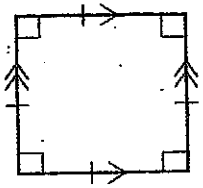
Quadrilaterals are polygons with four sides and four angles.

Types of quadrilaterals

The following quadrilaterals are named according to the direction and lengths of their sides.

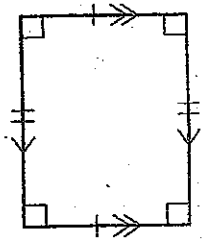
Squares

All sides equal.
Opposite sides parallel.
All angles equal, each 90 .



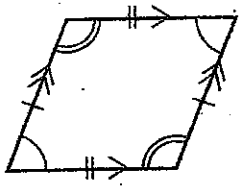
Rectangles

Opposite sides equal.
Opposite sides parallel.
All angles equal, each 90 .



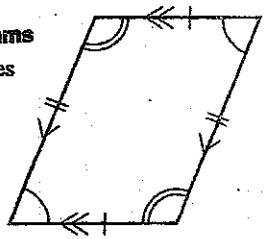
Rhombuses

All sides equal.
Opposite sides parallel.
Opposite angles equal.



Parallelograms

Opposite sides equal and parallel.
Opposite angles equal.



Finding unknown angles in quadrilaterals

The four angles inside all quadrilaterals always add up to 360 . When the four angles are cut off any quadrilateral and moved next to each other they will always form a revolution. Follow this practical proof and try it yourself.

Step 1

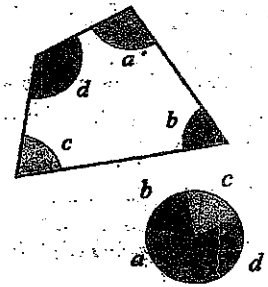
Draw a quadrilateral.

Step 2

Colour each angle using different colours.

Step 3

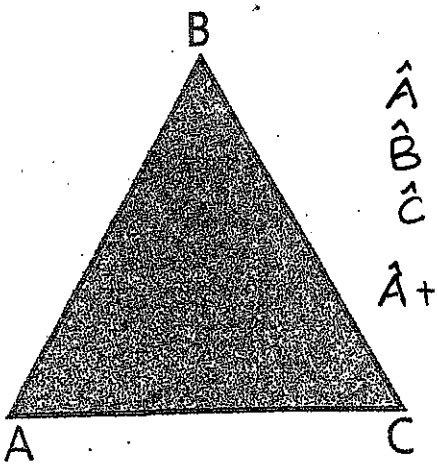
Cut off each angle and assemble as in this diagram.
The corners will always fit together to make an angle of 360 .



Refer to the following pages in the Clever Maths Text

Pages 135 - 176

Investigating the sum of angles in a triangle.

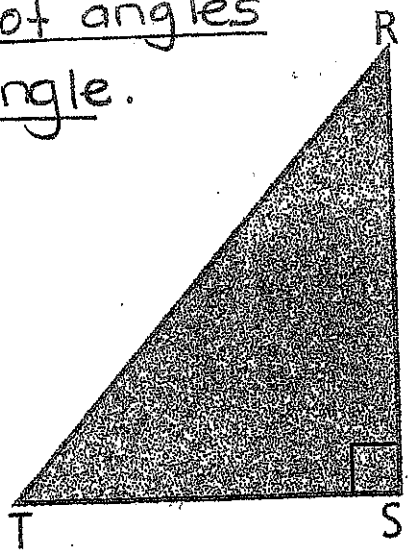


$\hat{A}$ =

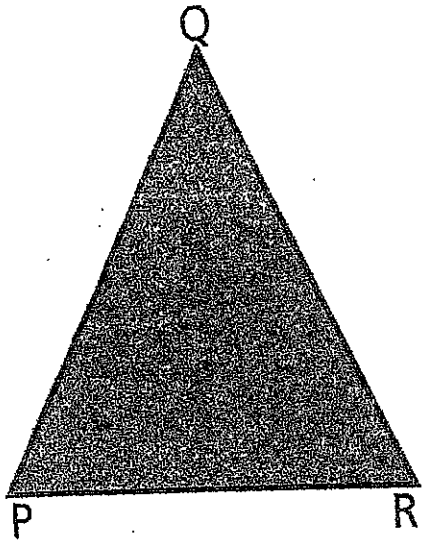
$\hat{B}$ =

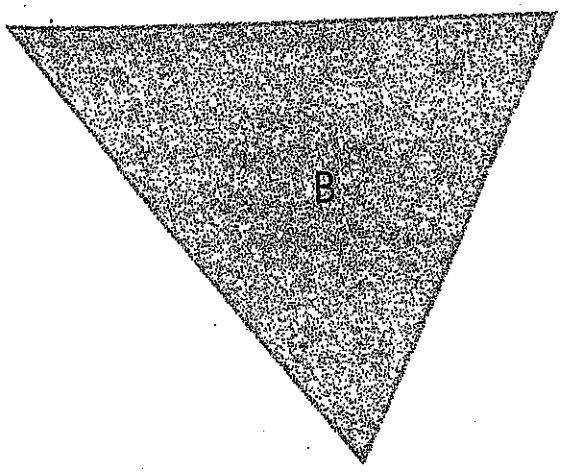
$\hat{C}$ =

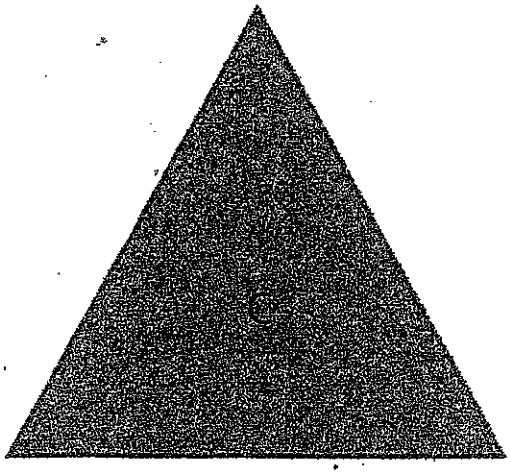
$\hat{A}+\hat{B}+C$ = ____

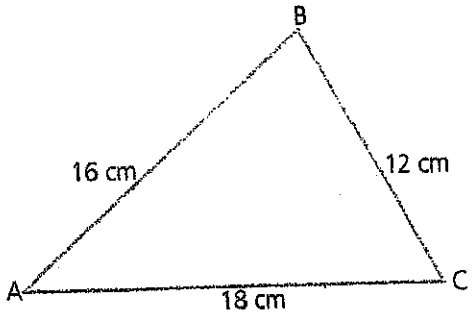


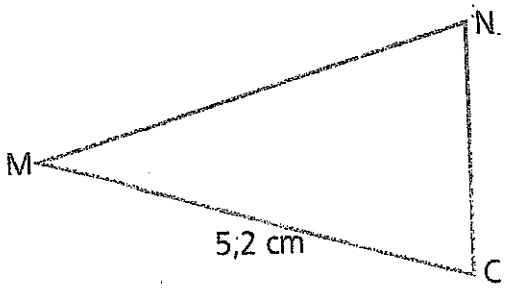
AB = ___ , AC = ___ , BC = ____











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Investigating the sum of angles in a quadrilateral.