SUBJECT: MATHS

Contents:

Unit 5. Angles (p.103-127)

- ✓ 5.1. Calculating angles
- ✓ 5.2. Interior angles of polygons
- ✓ 5.3. Exterior angles of polygons
- ✓ 5.4. Constructions
- ✓ 5.5. Pythagoras' theorem

Unit 7. Shapes and measurements (p.138-160)

- ✓ 7.1. Circumference and area of a circle
- ✓ 7.2. Areas of compound shapes
- ✓ 7.3. Large and small units

Unit 8. Fractions (p.161-190)

- ✓ 8.1. Fractions and recurring decimals
- ✓ 8.2. Fractions and the correct order of operations
- ✓ 8.3. Multiplying fractions
- ✓ 8.4. Dividing fractions
- ✓ 8.5. Making calculations easier

Unit 9. Sequences and functions (p.191-211)

- ✓ 9.1. Generating sequences
- ✓ 9.2. Using the nth term
- ✓ 9.3. Representing functions

Unit 10. Graphs (p.212-234)

- ✓ 10.1. Functions
- ✓ 10.2. Plotting graphs
- ✓ 10.3. Gradient and intercept
- ✓ 10.4. Interpreting graphs

Instructions:

1) Students MUST complete the study guide before revision classes.

2) Students are ALLOWED to use calculators for problem-solving tasks.

PART 1. MATHEMATICAL TERMS

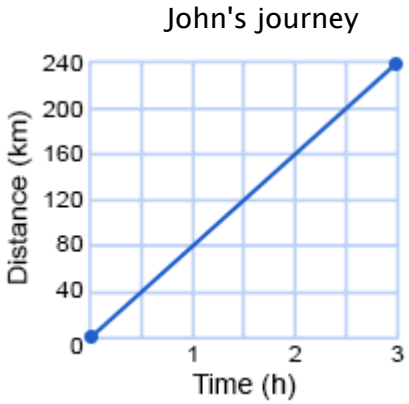
NO.	TERMS	UNITS	DEFINITIONS	VIETNAMESE TRANSLATIONS
1	**regular polygon**	5		
2	**interior angle of a polygon**	5		
3	**exterior angle of a polygon**	5		
4	**circumference**	7		
5	**area**	7		
6	**diameter**	7		
7	**radius**	7		
8	**fraction**	8		
9	**equivalent decimal**	8		
10	**recurring decimal**	8		

NO.	TERMS	UNITS	DEFINITIONS	VIETNAMESE TRANSLATIONS
11	**terminating decimal**	8		
12	**cancelling**	8		
13	**common factors**	8		
14	**linear sequence**	9		
15	**non-linear sequence**	9		
16	**quadratic sequence**	9		
17	**square (verb)**	9		
18	**graph**	10		
19	**gradient**	10		
20	**intercept**	10		

PART 2. EXERCISES

Note: Please, see next pages

Question 1

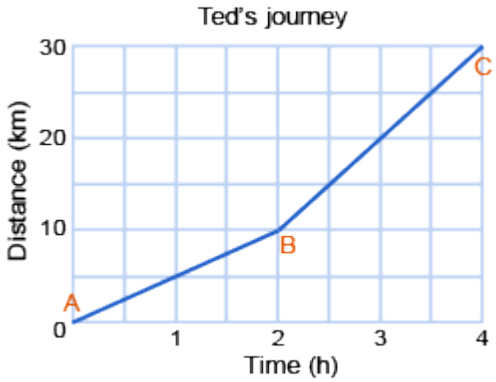


What distance has John travelled in three hours?

Distance travelled in three hours = ____ km

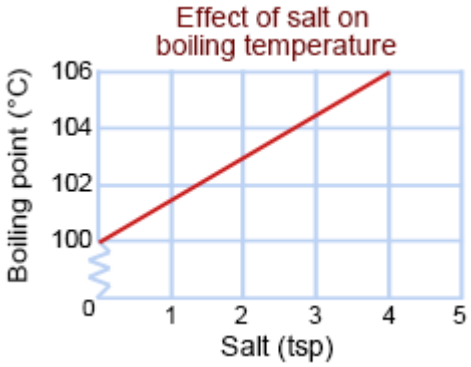
Question 2

What is Ted's speed for the first part of his journey?



Ted's speed = ____ km/h

Question 3

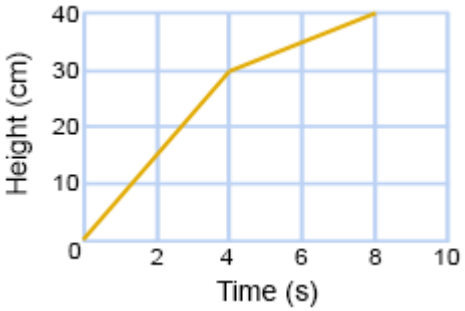


The graph shows the effect on the boiling point of water when salt is added.

What is the rate at which the boiling point is changed by adding salt?

Rate = [ ] °C/tsp

Question 4



Water was poured into a container for eight seconds and the water level rose.

Over the next two seconds, the water level decreased at a rate of 15 cm/s.

What will be the level of water at the 10-second mark?

Water level = [ ] cm

Question 5

$0.\dot{7}$ as a fraction is $\frac{7}{\square}$

Question 6

Which two digits are in the repeating pattern when $\frac{1}{11}$ is written as a recurring decimal?

First digit = [ ] Second digit = [ ]

Question 7

When $\frac{5}{7}$ is written as a decimal, what is the digit in the 75th decimal place?

Question 8

Nudrat has a $2\frac{1}{2}$ kg bag of sugar. She needs $\frac{1}{8}$ kg of sugar to make a cake. Nudrat makes five cakes.

How much sugar does she have left?

Give your answer in kilograms.

Question 9

Work out the answer to this calculation, giving the answer in its simplest form.

$$\frac{3}{5} \times \left(\frac{3}{4} - \frac{1}{2}\right)^2 =$$

Question 10

work out the answer to this calculation.

Give the answer as a mixed number.

$$6 + \left(\frac{5}{6} + 3\frac{1}{2}\right)^2 =$$

Question 11

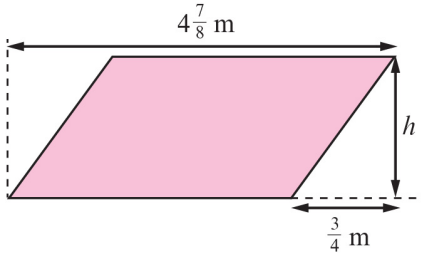
A circle has a diameter of $\frac{3}{5}$ m.

Using $\pi = \frac{22}{7}$, work out the area of the circle.

Give the answer as a fraction in its simplest form.

Area =

Question 12



This parallelogram has an area of $23\frac{1}{10}$ m^2.

Work out the height, *h*, of the parallelogram.

Give the answer as a mixed number in its simplest form.

h = 5 $\square\frac{\square}{\square}$

Question 13

A farmer has three fields.

The two smaller fields are $1\frac{1}{3}$ and $2\frac{3}{5}$ hectares each.

In total, the area of the three fields is $9\frac{3}{8}$ hectares.

What is the area of the third field?

$\square\frac{\square}{\square}$ m^2

Question 14

Work out $\frac{4}{9} \times \frac{2}{7}$.

$\frac{\square}{\square}$

Question 15

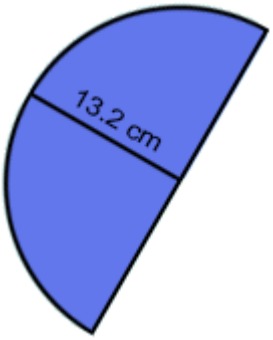
What is the area of a circle with radius 3 cm?

Give your answer to one decimal place.

$\square$ cm^2

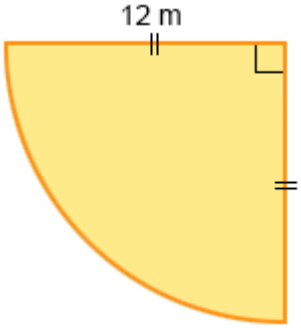
Question 16

Calculate the area of this semicircle correct to the nearest whole number.



$\square$ cm^2

Question 17

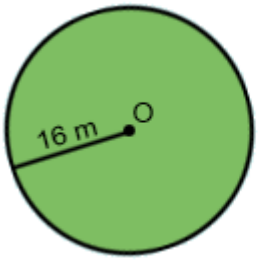


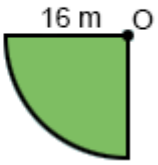
Use π on your calculator to find the area of this quadrant correct to the nearest whole square metre.

$\square$ m^2

Question 18

The circumference of this whole circle is approximately 100 m long.





What is the perimeter of the quadrant?

$\square$ m

Question 19

An aeroplane is 6000 m above Earth, flying along the equator. The radius of Earth is approximately 6400 km.

How many kilometres does the plane fly if it circles Earth?

$\square$ km (to the nearest kilometre)

Question 20

A circle has an area of 150 cm^2. What is the circumference of the circle? Give your answer to one decimal place.

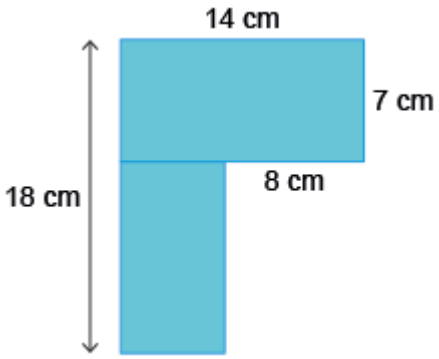
_____ cm

Question 21

What is the percentage increase in a circle's area if the length of its radius is increased by 10%?

_____ %

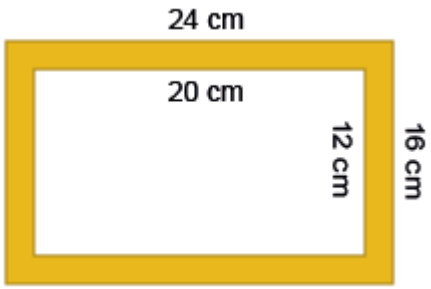
Question 22



Work out the total area of the compound shape.

_____ cm^2

Question 23



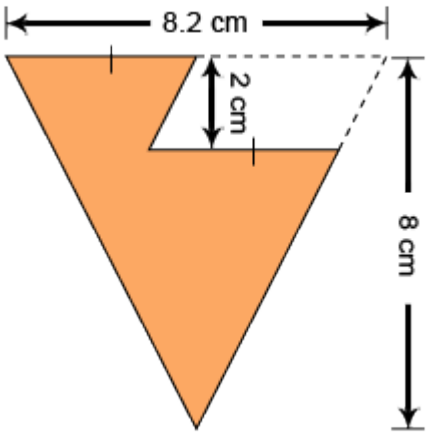
The diagram shows a picture frame.

What is the area of the frame?

_____ cm^2

Question 24

Find the area of this shape, formed by cutting a parallelogram from a triangle.



Area = ☐ cm^2

Question 25

What is the third term of the sequence with position-to-term rule $4n + 1$?

☐

Question 26

What is the first term of the sequence with nth term $2\frac{1}{2}n - 3$?

☐ ☐/☐

Question 27

A sequence starts 10, 17, 24, … . Fill in the missing number in the nth term rule.

7n + ☐

Question 28

Fill in the missing number in the nth term rule for the sequence 2, 7, 12, …

☐ $n - 3$

Question 29

The nth term rule for a sequence is $\frac{1}{2}n + \frac{3}{4}$.

What is the ninth term of the sequence?

$\square.\square$

5

Question 30

The nth term rule for a sequence is $n^2 + 3$.

What is the fifth term of the sequence?

$\square$
