

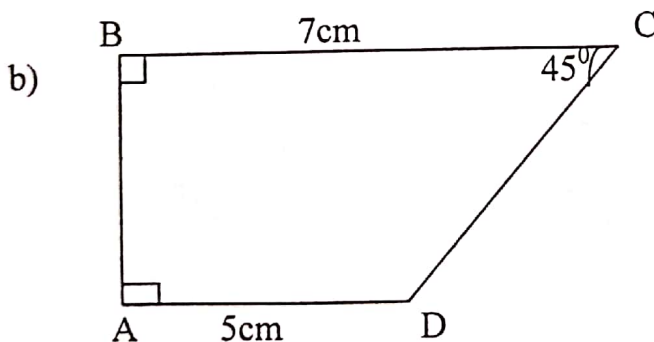
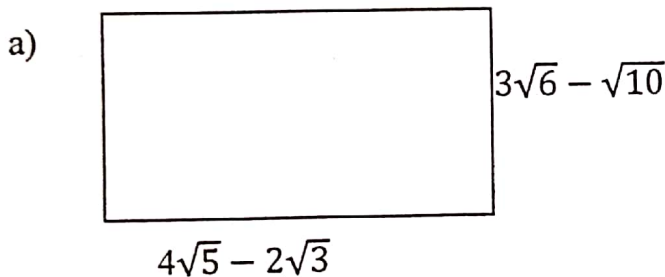
ST. FRANCIS GIRLS' SECONDARY SCHOOL  
PRE – NATIONAL BASIC MATHEMATICS  
FORM II  
07<sup>TH</sup> OCTOBER 2019

TIME: 2:30 HOURS

INSTRUCTIONS:-

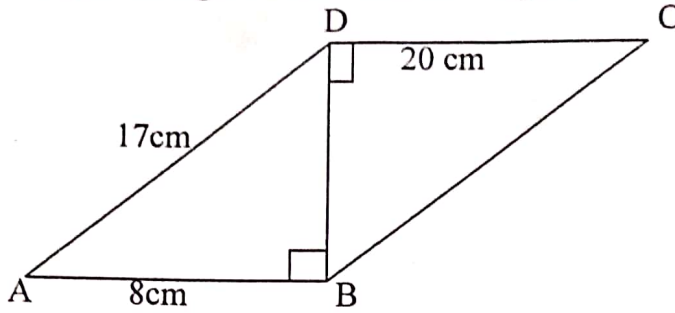
1. Answer all questions
  2. All necessary working and answer must be shown Clearly
  3. Mathematical tables and other instrument may be used
  4. Calculators and cellular phones are not allowed in the examination room
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1. a) Express 0.05968
  - i. correct to three (3) significant figures
  - ii. Correct to three (3) decimal placesb) i. Find the fractional notation for  $0.5\bar{8}$ 
  - ii. Express the product of  $1300 \times 0.026$  in the scientific notation. (Standard form)
2. Find the areas of the given figures in cm squares in simplest form



3. a) A translation T maps the point  $(-3, 2)$  into  $(4, 3)$ . Find where T maps point  $(7, 4)$   
b) Find the image of a point  $K(-5, 4)$  after:-
  - i. Reflection on the line  $y=0$
  - ii. Rotation through  $90^\circ$  in clockwise direction about the origin
4. Given  $5^x \times (25)^{2y} = 1$  and  $3^{5x} \times 9^y = \frac{1}{9}$  find  $x$  and  $Y$

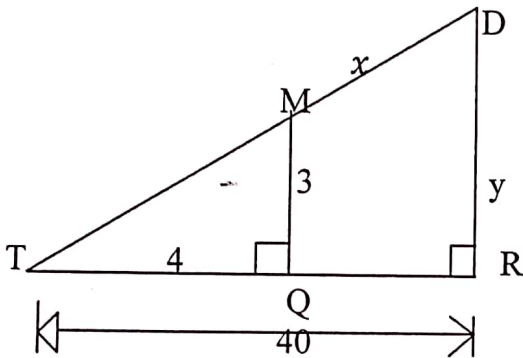
5. a) From the figure below find the length BC



- b) From figure below  $\triangle TRD$  is similar to  $\triangle TQM$ .

i. Calculate the value of  $x$  and  $y$  in cm

ii. Calculate the area of  $\triangle TRD$  in  $cm^2$



6. factorize the expressions:-

a)  $x^3 - 4x$

b)  $9a^3 - 2a^2 - 7a$

7. a) Given that  $\frac{\log x}{\log 9} = \frac{\log 64}{\log 8}$  Determine the value of  $x$

b) Compute  $\frac{(38.1)^2 \times 608}{\sqrt[3]{862}}$  using mathematical tables

8. a) Given that:-  $U = \{0, 1, 2, 3, 4, 5, 6, 7\}$

$$A = \{1, 2, 3, 4\} \text{ and } B = \{3, 4, 5, 6\}$$

Find:-

i.  $A^1 \cap B$

ii.  $n(A \cap B^1)$

b) Ali invested Tsh.500, 000 for 18 months at the rate of 15% per annum. Find the interest he earned.

9. Simplify:-

a) i)  $\frac{x^2-4}{(1+x)-3}$

ii)  $\frac{\sqrt{18}}{\sqrt{10}-\sqrt{6}}$

10. a) Alice stands 200m from the tall building. The angle of elevation of the top of the building is  $24^\circ$ . What is the height of the buildings?

b) The table below represents marks of a certain class in a mathematical test

Marks	21 – 30	31 – 40	41 – 50	51 - 60	61 – 70	71 – 80
Frequency	4	17	10	5	3	1

i. Construct frequency distribution table including the column for class mark, class boundaries, cumulative frequency and identify the class size