81·03· 2016

1. Write 0.2203 in scientific notation.

2. Find the value of $\log_5 125 + \log_2 32$
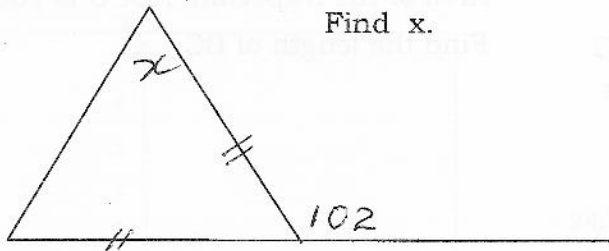
3. Simplify $\overline{3}.5732 \div 2$

4. Find the value of $\sqrt[3]{0.027}$

5. Using $(x + y)^3 = x^3 + 3x^2y + 3xy^2 + y^3$

   Find the value of $(102)^3$

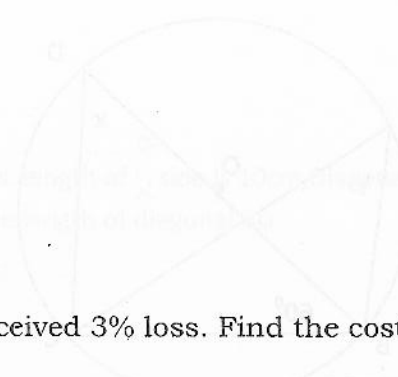6. Find the value of $\dfrac{\sqrt{48}}{\sqrt{3}}$

7.

Find x.

8. Find L. C. M. of $x(x + 3)$; x^2

9. $V^2 = U^2 + 2as$. Make S the subject

10. $\dfrac{3b}{a+2} \times \dfrac{2a+4a}{6b}$ Simplify
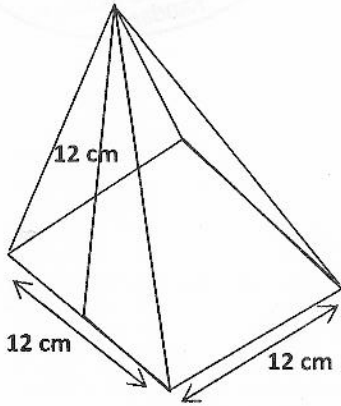
11. When a clock was sold at Rs. 776.00, merchant received 3% loss. Find the cost.

12. $-1 + 5x \geq -11$ Solve the inequality & write two solutions
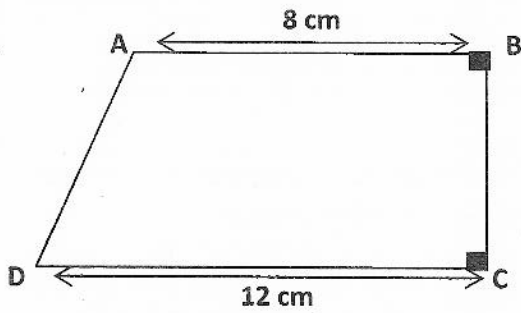
13. a - b = 5;   ab = - 7   find the value of a² + b²

14.

FIND SURFACE AREA EXEPT THE BOTTOM

12 cm

12 cm   12 cm

a

15. 8 men take 7 days to complete work. After two days, three men did not work. How many days are needed to finish the rest of the work.
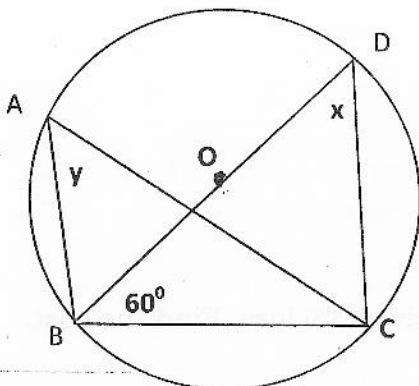
16.

8 cm

A   B

D   C

12 cm

Area of the trapezium ABCD is 100cm²

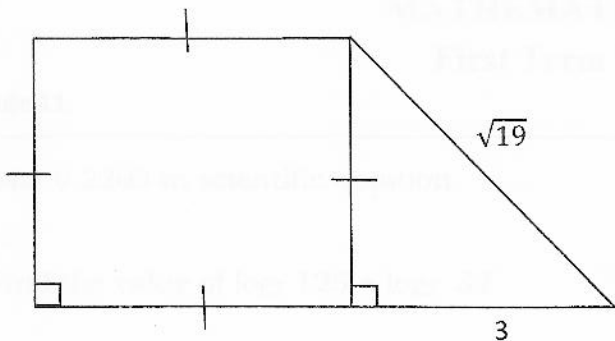Find the length of BC.

17. If $\sqrt{3} = 1.7323$ find $\sqrt{75}$

18

D

A   x

O

y

60°

B   C

BD is the diameter in which the centre is "O".
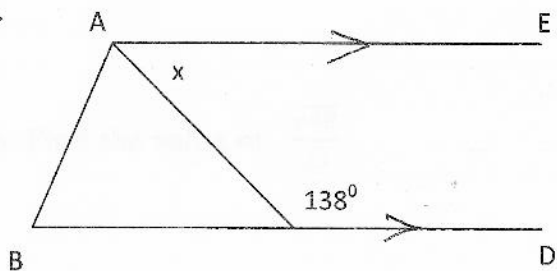
Find x and y.

19

Find the area of square ABCD.

$\sqrt{19}$

3

20. Find the factors of a² - b² + a + b

21.

$10.03^2 < 100$	
$\sqrt{12^2 + 1} > 12$	
$lg \dfrac{1}{100} = -2$	

Insert ✓ or ✗ in the appropriate cages

22.

A E

x

138°

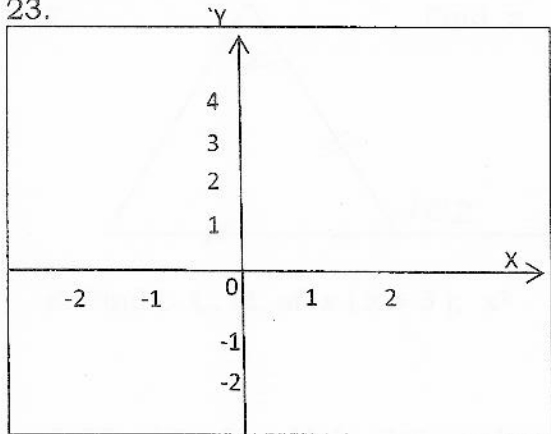B D

In the figure, $AE \parallel BD$, ABC Δ
AB = BC
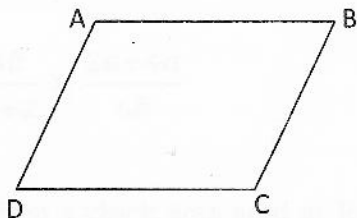(I) Find x
(II) Find the value of $B\hat{A}E$

23.

Draw the straight line relevant to y = 2x + 3 on the given cartesean plan.

24. Find X $2lgx + lg8 = 2lg4 + lg2$

25.

A B

D C

ABCD is Rhombus. length of side is 10cm. Diagonal AC=12cm. Find the length of diagonal BD

3

PART B

1. (a) Simplify $\left(10\frac{3}{4} - \frac{1}{2}\right)$ of $\frac{4}{41}$

   (b) A merchant exported $\frac{5}{12}$ of his collection of tea and gave $\frac{1}{7}$ of the remainder for charity. Finally he sold the rest at the rate of Rs.500/= per Kg. to a retail merchant.

   (I) Find the remaining stock.

   (II) Find the fraction from the total stock he allocated for charity.

   (III) What fraction of the total stock, that retailer bought?

   (IV) If retailer sold 60 packets of 500g packs at Rs. 345/= per packet, find his profit?

2.
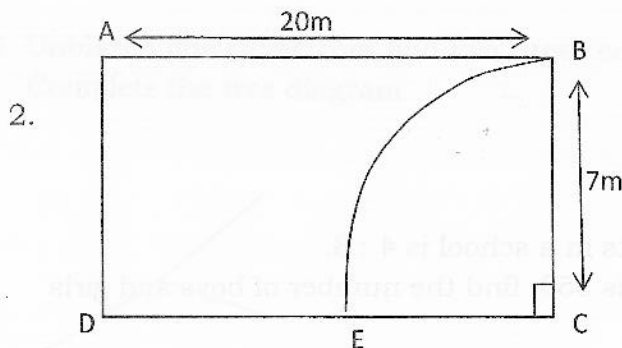
The figure shows a pond. ABCD is a rectangle. CBF is a sector filled with soil.

   (I) Find the perimeter of the pond.

   (II) Along the boundaries AB and AD light posts have been erected 5ᴍ apart. Find the number of light posts needed.

   (III) Calculate the area of sector BEC.

   (IV) Find the area of the pond.

   (V) It is suggested to fix a wire mesh along the line BE, 5ᴍ high. Find the area of the wire mesh.

3. (a)

Stem	Leaf
2	2, 9, 7, 4, 9
3	8, 3, 5, 8
4	7, 2, 8, 6
5	4, 1

This stem – leaf table shows the sales of a poultry farm during 15 days.

(I) Re-arrange it in ascending order.

(II) What is the mode?

(III) Find the medean.

(IV) Write the range of the numbers.

(b)
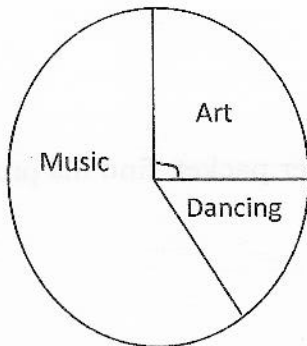
Given Pie Chart shows the number of students studying Art, Dancing and Music. Half of the number study Art, study Dancing and it is 30.

(I) Find the number of students studying Music.

4. Ratio between male students and female students in a school is 4 : 3.

   (I) If the total number of students in the school is 350, find the number of boys and girls separately.

   (II) It is decided to give a sports dress kit to all the students in the school. The ratio between the selling prices of girl's dress and boy's dress is 4 : 5. If the selling price of the dress of a boy is Rs.1250/= , find the selling price of a girl's dress.

   (III) Calculate the total income from all the dresses school received.

   (IV) If the cost of material is Rs.200,000/=, and labour is Rs.120,000/=, show that the Ratio between material, labour and profit is 4 : 3 : 2

5. Identical 3 red beads and 2 blue beads in a bag.

(a) A bead had been taken at random and without replacing another bead had taken at random,

   (I) Illustrate the sample space on the given web.

   (II) Find the probability that both beads are being in different colors.

   (III) What is the probability that both beads are being Red.
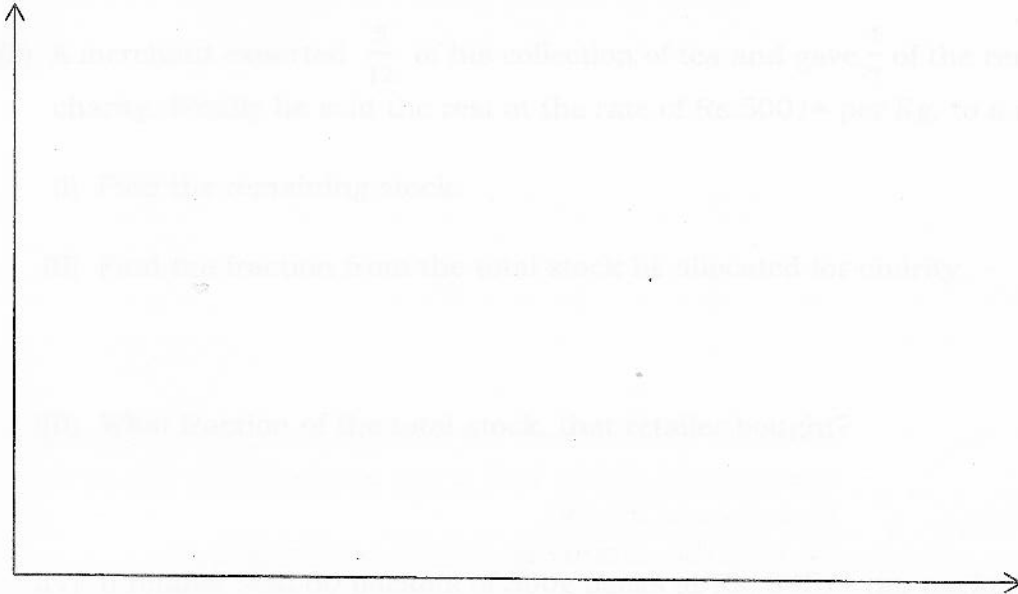
(b) Unbiased one rupee coin and two rupee coins had been tossed together. Complete the tree diagram.
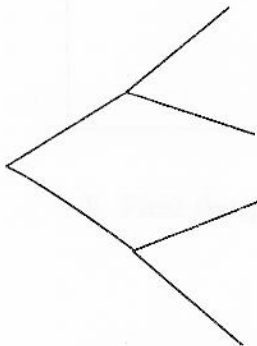
   (I) Find the probability that both coins taken at random are getting heads up.