

GANIT PRABHUTWA EXAMINATION (Level-1)

Date : 8.12.2013

Std. VIII

Total Marks : 100

Time : 3 Hours

N.B. : Proper procedure and explanation is necessary.

1. a) The ratio of zinc and copper in the brass piece is 13 : 7. How much zinc will be there in 200 kg of such piece? 10

b) By which smallest number, 23625 should be divided so that the quotient will be a perfect cube?

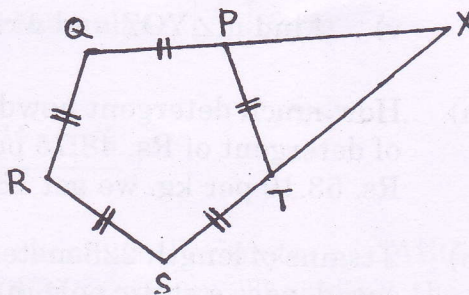
c) What should be subtracted from $(6b - 7a)$ to get $(4a - 4b)$?

d) Multiply : $(1.05) \times (0.95)$

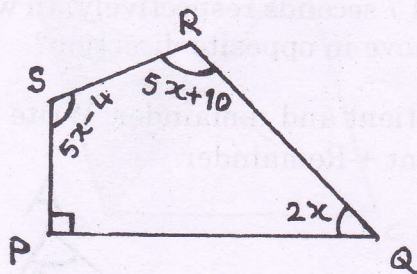
e) Observe the adjoining figure and answer the following questions.

i) Find the measure of $\angle X$,

ii) What is the type of $\triangle XPT$? Why?



2. a)



Use the information given in the adjoining figure to find measure of $\angle R$ and $\angle S$.

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b) The average age of a family of 4 is 22.5 years. The son is 2 years older than his sister. Father is 4 years older than his wife. What is the average age of mother and her son?

c) Solve : $\frac{1-x}{6} + \frac{2x}{3} - \frac{1-7x}{4} = 2\frac{1}{6}$

d) Madhav and Keshav together do a work in 18 days. Only Madhav can do the same work in 45 days. In what time Keshav alone can complete the same work?

e) Draw a circle with radius $\sqrt{5}$ cm and center O.

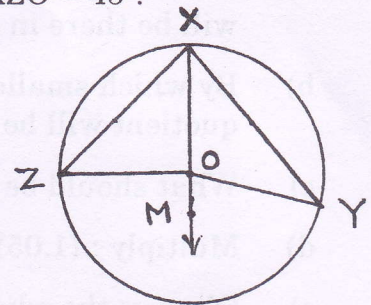
3. a) Simplify : $\frac{9}{7}$ of $\frac{28}{21} \times \frac{35}{16} \div \frac{3}{10} + \frac{1}{5} - \frac{1}{2}$

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- b) If ₹ 1075 are divided among A, B, C such that A gets 25% more than B and B gets 25% less than C, find the share of C.
- c) Find the amount and the interest of ₹16000 for 2 years at the rate 5 p.c.p.a by compound interest.

d) If $3x - 4 = \frac{3}{x}$ then find the value of $x^3 - \frac{1}{x^3}$

- e) In the adjoining figure, O is the center of the circle, $m\angle YXO = m\angle XYO = 35^\circ$ Similarly $m\angle ZXO = m\angle XZO = 45^\circ$. Answer the following questions.



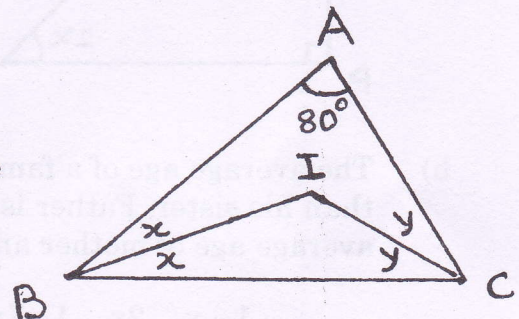
- Which is the exterior angle of $\triangle XYO$
- What is the $m\angle YOM$? Why?
- Write the exterior angle of $\triangle XOZ$
- What is $m\angle MOZ$?
- Find $m\angle YOZ$ and write it.

4. a) How much detergent powder of Rs. 42.50 per kg. be mixed with 40 kg. of detergent of Rs. 48.75 per kg., so that when the mixture is sold at Rs. 53.10 per kg. we get 18% profit? 20

- b) 2 trains of length 225 meters and 175 meters respectively, with the same speed, pass a static pole in 9 seconds and 7 seconds respectively. In what time will they cross each other if they move in opposite direction?
- c) Divide $(x^3 + 216)$ by $(x + 6)$ and find quotient and remainder. Write in the form of Divident = Divisor \times Quotient + Remainder.

- d) Factorize :
 $x(x - 1)(x - 3)(x - 4) - 180$

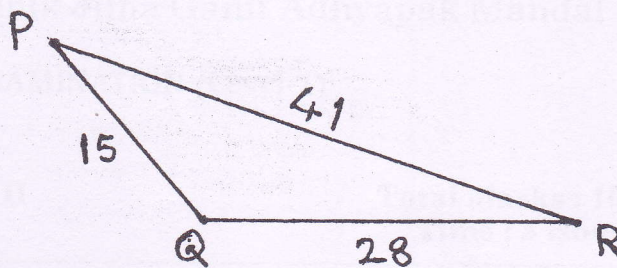
- e) Observe the adjoining figure and calculate $m\angle BIC$. What is the measure of $\angle BAI$? Why?



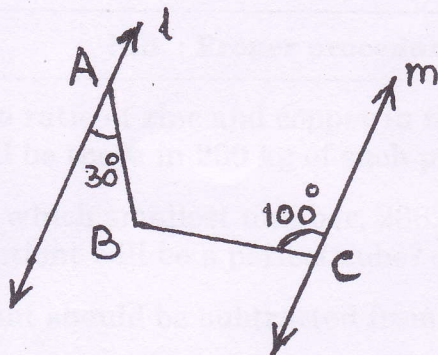
5. a) G.C.D. of 2 numbers is 23 and their product is 19044. Find those numbers. 20

- b) A sum was put at simple interest at a certain rate of interest for 2 years. Had it been put at 1% higher rate, it would have fetched ₹ 24 more interest. What was the principle?
- c) In a two digit number, digit at unit's place is less than digit at ten's place by 4. If the number is divided by sum of digits, the quotient is 7. Find the number.

- d) In the figure, $\angle Q$ is an obtuse angle. $l(PR) = 41$, $l(PQ) = 15$, $l(QR) = 28$. Find the length of the perpendicular drawn from P on line QR.



- e) i)



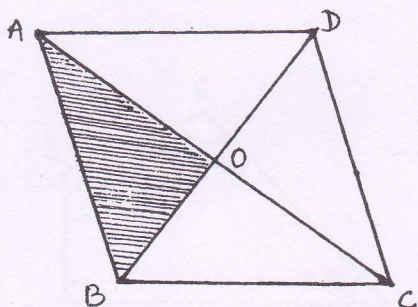
In the figure, line $l \parallel$ line m . Observe the figure and find $m\angle ABC$.

- ii) Convert recurring number $0.\overline{18}$ into the vulgar, $\left(\frac{p}{q}\right)$ form.

6. a) How many times of 3^{-15} is $\frac{3^{-12} + 3^{-13} + 3^{-14} + 3^{-15}}{8}$?

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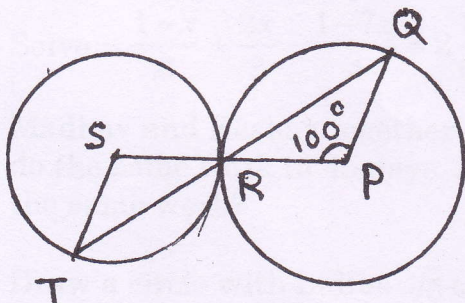
- b)



$\square ABCD$ is a rhombus. Perimeter of $\triangle ABC$ is 36 cm. $l(AB) = 10$ cm. Then find the perimeter of shaded portion. Also find the area of the shaded portion.

- c) 600 compass boxes were bought for ₹18000. of them $\frac{2}{3}$ were sold at profit of 20%. 100 boxes had to be sold at 10% loss due to damage. For how many rupees should the remaining boxes be sold so as to get 10% gain on the whole?

- d)



Observe the adjoining figure and find the measure of $\angle RST$. State whether $\text{seg } PQ \parallel \text{seg } TS$, with reason.