Then ANG = $\frac{\angle}{8}$ = 2

Set Theory, Permutations & Logarithms

1) The value of log 6 is equal to?

sol) log (1 * 2 * 3) = log 6

2) Find the value of log(base 8) 128

sol) $\log_8 128$

$8^x = 2^7$

$(2^3)^x = (2^7)$

$3x = 7$

$x = 7/3$

$P = a^M \cdot a^n = a^{M+n}$

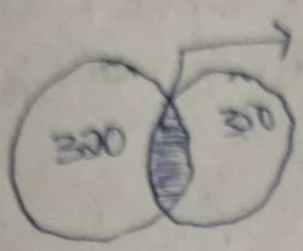
$q = a^m/a^n = a^{m-n}$

$pow = (a^m)^n = a^{mn}$

3) Find the value of log (base y) x * log (base z) y * log (base x) z

sol) $(\log_y x)(\log_z y)(\log_x z) = \log_z z = 1$

In mind hockey club all the members like either in superman Batman. 320 like in the B, 350 like superman and 220 like both. How many members does the club have?



Solve

$$A \cup B = n(A) + n(B) - n(A \cap B)$$
$$= 320 + 350 - 220$$
$$= 450$$

2) Last year, there were '3' sections in Acc, a mock CAT paper. out of the 33 students cleared the cutoff in section A, 34 students cleared the cutoff in section B and 32 cleared the cutoff in section C. 10 students cleared the cutoff in section A and section B, 9 cleared the cutoff section B & section C, & cleared the cutoff in section A. and section C.

How many cleared all the three sections?

Solve $A \cup B \cup C = n(A) + n(B) + n(C) - n(A \cap B) - n(A \cap C) - n(B \cap C)$

$$\text{Total} = n(A \cap B) + n(A \cap C) + n(B \cap C) - 21$$
$$= 27 - 21$$
$$= 6$$

3) How many cleared any one of the three sections?

$$\text{Ans} = n(A \cup B \cup C) - (n(A) + n(B) + n(C))$$

$$= 27$$

A) Survey of faculty and graduate students at MUST Mirpur revealed the following information: 51 admire Amir Khan 49, Shahrukhan, 60 Salman Khan, 34, admire Amir & Shahrukhan, 32 admire Shahrukh & Salman 36 Amir & Salman, 24 all of three khans. and '3' none of these

Sol4

$n(A) = 51$, $n(B) = 49$ $n(C) = 60$

$n(A \cap B) = 34$ $n(B \cap C) = 32$, $n(A \cap C) = 36$

$n(A \cap B \cap C) = 24$

① How many people were Serveed?

82

② How many Admire Shahrukh, but not Salman or Amir

$49 - 24 - 32$

$= 9$

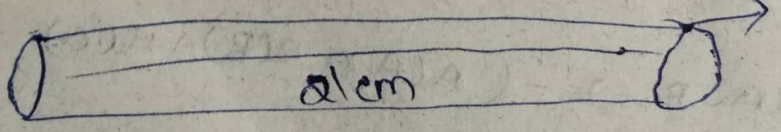
$\frac{1}{3} \pi r^2 h$

$\frac{1}{3} \times \frac{22}{7} \times$

Mensuration

A Hallow iron pipe is 21 cm long & it's External diameter is 8 cm. If the thickness of pipe is 1cm and iron weight 8 gms/cm3 then the weight of the pipe is?

Sol4



Sol4

radius = $\frac{dia}{2} = 8/2 = 4$

Sol) volume = $\pi \times r^2 \times h$

$= 22/7 \times (4^2 - 3^2) \times 21$

$= 462$

Then weight = 462×8

$= 3.696.$

The radius of circle is so increased that circumference increased by 10%. The area of a circle is then increases by.

Sol

Radius = r

New Radius = $r + r \times 5/100$

$= \frac{105\,r}{100}$

Area of circle = πr^2

Area of new circle = $\pi r^2 + \pi r^2 \times 5/100$

$=$