

۱- الف)  $\sqrt{25}$  (ب)  $\times$  (ج)  $\sqrt{1}$  (د)  $\times$  (ه)  $\sqrt{25}$  (۱)

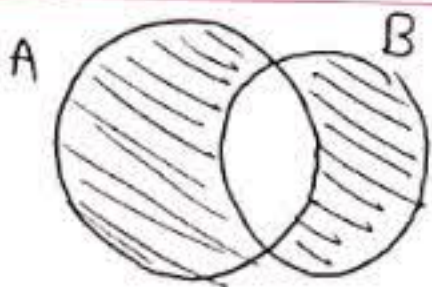
۲- الف)  $2^4 = 14$  (ب)  $|xy| = -xy$  (ج)  $400$  متر (د)  $\frac{1}{3} + \frac{1}{4} = \frac{4+3}{12} = \frac{7}{12}$  (۱)

۳- (۱-۳) (۲-۳) (۳-۳) (۴-۳) (۱۵)

$A = \{1, 2, 3, 4, 14\}$   $B = \{-1, 0, 1, 2\}$  (۱۵)

$(A \cup B) - \{-1, 2\} = \{1, 3, 4, 14, 0, 1\}$

$(B - A) \cup (A \cap B) = \{-1, 0, 1, 2\}$  (۱۵)



$B \cup \emptyset = B$  (۱۵)  $A - \emptyset = A$  (۱۵)

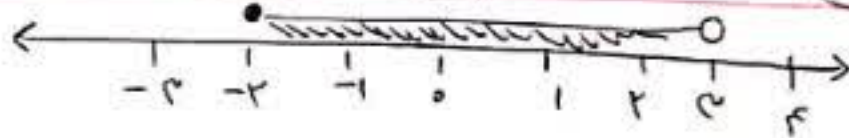
$x + 1 = 6$   
 $x = 5$

$2x + y = 6$   
 $10 + y = 6$   
 $y = -4$

۴- الف)  $P(A) = \frac{n(A)}{n(S)} = \frac{3}{12}$  (ب)  $4 \times 4 \times 2 = 32$  (۱۵)

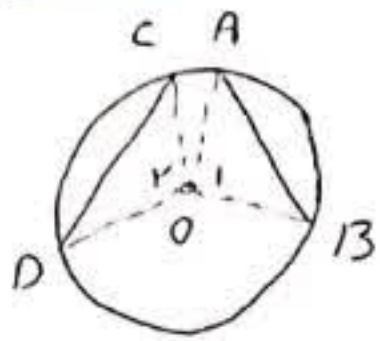
$\frac{4}{9} \times \frac{9}{4} = 1$

۷- الف)  $\frac{7}{10}$  (ب)  $\sqrt{2}, \sqrt{3}, \sqrt{4}$  (ج)  $[\frac{4}{9} \div \frac{1}{9}] \times (-\frac{1}{2}) + \frac{2}{3} = \frac{4}{9} \times (-\frac{1}{2}) + \frac{2}{3} = -\frac{2}{9} + \frac{4}{9} = \frac{2}{9}$  (۱۵)



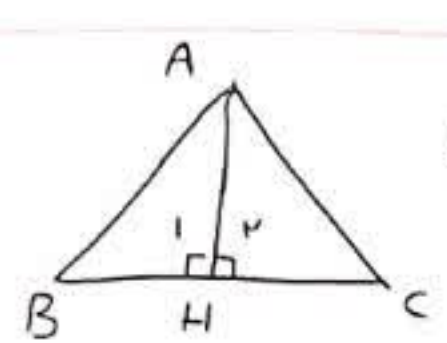
$\sqrt{(2 - \sqrt{5})^2} = |2 - \sqrt{5}| = \sqrt{5} - 2$  (۱۵)

$|0.3^4 - 0.3^5| = 0.3^4 - 0.3^5$  (۱۵)



فرض  $\overline{AB} = \overline{CD}$   
 حكم  $\widehat{AB} = \widehat{CD}$

فرض  $\overline{AB} = \overline{CD}$   
 شعاع  $OA = OC$   
 شعاع  $OB = OD$   
 $\triangle AOB \cong \triangle COD$   
 $\Rightarrow \hat{O}_1 = \hat{O}_2$   
 $\widehat{AB} = \widehat{CD}$



فرض  $\hat{H}_1 = \hat{H}_2 = 90^\circ$ ,  $\overline{BH} = \overline{CH}$   
 حكم  $\overline{AB} = \overline{AC}$

فرض  $\hat{H}_1 = \hat{H}_2 = 90^\circ$   
 فرض  $\overline{BH} = \overline{CH}$   
 ضلع مشترك  $\overline{AH} = \overline{AH}$   
 $\triangle ABH \cong \triangle ACH$   
 $\Rightarrow \overline{AB} = \overline{AC}$

$\frac{\Delta}{2x-1} = \frac{1}{4} = \frac{y}{y+2}$

$\frac{\Delta}{2x-1} = \frac{1}{4}$   
 $2x-1 = 4$   
 $2x = 5$   
 $x = 2.5$

$\frac{y}{y+2} = \frac{1}{4}$   
 $4y = y+2$   
 $3y = 2$   
 $y = 2/3$

$\frac{2.5}{100} = \frac{1}{4}$  (ب)  $\frac{1}{4}$

$\frac{3^2 \times 2^2}{2^2 \times 9^{-1}} = \frac{3^2 \times 2^2}{2^2 \times (2^2)^{-1}} = \frac{3^2 \times 2^2}{2^{-2}} = 3^2 \times 2^4 = 4^2$

$(\frac{2}{3})^m \times (\frac{1}{2})^{-n} = (\frac{2}{3})^m \times (\frac{2}{1})^n = (\frac{1}{3})^m$   
 ب)  $(-\frac{2}{3})^{-2} = -(\frac{2}{3})^2 = -\frac{4}{9}$

$\frac{\sqrt{12} \times \sqrt{10}}{\sqrt{15}} = \sqrt{\frac{12 \times 10}{15}} = \sqrt{8} = 2\sqrt{2}$

$2\sqrt{1} - \sqrt{27} - \sqrt{42} + 2\sqrt{12} = 2\sqrt{1} - 3\sqrt{3} - \sqrt{6 \times 7} + 4\sqrt{3} = 2\sqrt{1} - \sqrt{6} + \sqrt{3}$

$\frac{2}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \sqrt{2}$

$\frac{2}{\sqrt{5}} \times \frac{\sqrt{52}}{\sqrt{52}} = \frac{2\sqrt{52}}{5}$

$5 \times 10^9 \times 2 \times 10^{-2} = 21 \times 10^7 = 2.1 \times 10^8$