Square & Cube roots

37^2 $37+3$ $37-3$

$34 \times 40 = 1360 + 3^2 = 1369$

for ending 5

85^2 = $72 | 25$ = 7225 (8×9)

115^2 = $136 | 25$

Since Square discard last idigits

20164   2 and 8 are ending

$14^2 = 196$

$142 | 14^?$

$196 + 14$

$210 > 201$

So choose lesser

Cube root

250047

— 3

now cancel last 3

250 — close to $280 \div 6$

63

1) Ramesh arranged his 17424 chocolates in such a way that there are as many as rows as there chocolate in each row. how many chocolates did he place in each.

Ans

$N \times N = 17424$

$N^2 = 17424$

$N = \sqrt{17424}$

$N = 132$

				Total a
				$503 = 14$

2) what least number should be multiplied with 384 to make it perfect square

$384 = 2 \times 192$
$2 \times 2 \times 96$
$2 \times 2 \times 4 \times 29$
$2 \times 2 \times 4 \times 4 \times 6$
$2 \times 2 \times 4 \times 4 \times 3 \times 2$

$2^2 \times 4^2 \times 3 \times 2$

now multiply
by $3 \times$

$2^2 \times 4^2 \times 3^2 \times 4^2$

6

3) If square root of 5625 is 75, the $\sqrt{5625} + \sqrt{5.625}$
$+ \sqrt{0.5625}$ is cen

Since Sqrt count decimals $\frac{2}{2} = 1$ so only one in

$75 + 7.5 + 0.75 = 83.25$

4.) what is the value of $\sqrt{56+\sqrt{56+\sqrt{56+\ldots}}}$?

$56 \rightarrow 2 \times 28$ calculate its fact
      4×14 choose factor which
      7×8 diff 1
        then sine its additn
   7 ⑧   choose higher un

$\boxed{8}$

5.) what will be value of $\sqrt{\dfrac{9}{8}}$ if value of $\sqrt{71}=$
   8.455

     $71 = 9 \times 8$

$$\sqrt{\frac{9}{8}} = \sqrt{\frac{9}{8} \times \frac{8}{8}} = \sqrt{\frac{71}{64}} = \frac{8.405}{8} = 1.060\text{s}$$

6.) value of $\sqrt[6]{0.004096}$

$$(0.004096)^{1/6} = (0.004096)^{1/3 \times 1/2}$$

    $(0.16)^{1/\Lambda}$ $409 = 6$

       0.4

7.) find value of $\dfrac{1}{\sqrt{5}-\sqrt{11}}$ if $\sqrt{2}=1.414$

vationalize

$$\frac{1}{\sqrt{5}-\sqrt{11}} \times \frac{\sqrt{5}-\sqrt{11}}{\sqrt{5}-\sqrt{11}}$$

8.)

9.)

$$\frac{\sqrt{25}-\sqrt{11}}{25-11} \quad \frac{5+\sqrt{9\times 1}}{7} = \frac{5+3(1.414)}{7}$$

$$1.3 \approx 0$$

8) Squares of difference between 2 numbers is 9. and sum of the squares is 225 find their product

$$(A-B)^2 = 9 \qquad A^2 + B^2 - 2AB = 9$$

$$225 - 2AB = 9$$

$$AB = 58$$

9) what is the smallest number with which 5400 may be multiplied so that product is perfect cu

$$5400 = 2 \times 2700$$

$$200 \times \boxed{27}$$

$$200 = 2 \times 2 \times 2 \times 4$$
$$2^3 \times 5^2 \times \textcircled{2} \quad 5$$

$$\frac{6:1}{3}$$

10) Value of $\sqrt{0.000027 \times 0.008}$ is

$$0.03 \times 0.1 = 0.016$$

1) which among the following number is greater? $2\sqrt{2}$, $\sqrt{7}$, $2\sqrt{3}$, $\sqrt{5}$

$\sqrt{8}$, $\sqrt{7}$, $\sqrt{12}$, $\sqrt{5}$

$8^{1/2}$, $7^{1/2}$, $12^{1/2}$, $5^{1/2}$

greatest is greatest

2) what should come in place of question

$$\frac{90}{?} = \sqrt{\frac{69}{719}} - \frac{1}{3}$$

$$\frac{90}{?} = \left(\frac{69}{719}\right)^{1/2} - \frac{1}{3} = \frac{69}{719}^{\,1/3 \times \frac{1}{2}}$$

$$\left(\frac{1}{9}\right)^{-1/2} = \left(\frac{9}{9}\right)^{1/2} = \frac{3}{2} = \frac{90}{?}$$

$$? = 60 ✓$$

Average

$$Avg = \frac{Sum}{Total\ values}$$

$$Sum = Total\ values \times Avg$$