

SATISH CHANDRA MEMORIAL SCHOOL

Class: VIII Ch: 6 (Squares & Square Roots)

Worksheet -4

Sample Example:

Evaluate: $\sqrt{98 \times 162}$

$$\begin{aligned}
 &\sqrt{98 \times 162} \\
 &= \sqrt{2 \times 7 \times 7 \times 2 \times 3 \times 3 \times 3 \times 3} \\
 &= \sqrt{2 \times 2 \times 7 \times 7 \times 3 \times 3 \times 3 \times 3} \\
 &= 2 \times 7 \times 3 \times 3 \\
 &= 126
 \end{aligned}$$

$$\begin{array}{r|l}
 2 & 98 \\
 \hline
 7 & 49 \\
 \hline
 7 & 7 \\
 \hline
 & 1
 \end{array}$$

$$\begin{array}{r|l}
 2 & 162 \\
 \hline
 3 & 81 \\
 \hline
 3 & 27 \\
 \hline
 3 & 9 \\
 \hline
 3 & 3 \\
 \hline
 & 1
 \end{array}$$

Evaluate: $\sqrt{1 \frac{56}{169}}$

$$\sqrt{1 \frac{56}{169}} = \sqrt{\frac{225}{169}} = \frac{\sqrt{225}}{\sqrt{169}} = \frac{15}{13} = 1 \frac{2}{13}$$

$$\begin{array}{r|l}
 1 & 2 \quad 25 \quad (15) \\
 \hline
 & -1 \\
 \hline
 25 & 125 \\
 & 125 \\
 \hline
 & x
 \end{array}$$

$$\begin{array}{r|l}
 1 & 1 \quad 69 \quad (13) \\
 \hline
 & -1 \\
 \hline
 23 & 69 \\
 & -69 \\
 \hline
 & x
 \end{array}$$

Evaluate:

1. $\sqrt{25 \times 64}$
2. $\sqrt{81 \times 64}$
3. $\sqrt{2^4 \times 5^4}$
4. $\sqrt{3^2 \times 4^2 \times 7^4}$
5. $\sqrt{50 \times 8}$
6. $\sqrt{72 \times 32}$
7. $\sqrt{\frac{49}{121}}$
8. $\sqrt{\frac{169}{625}}$
9. $\sqrt{6 \frac{30}{49}}$
10. $\sqrt{\frac{441}{961}}$