

1.1 & 1.2 - Review Worksheet

Name: KEY

Show all of your work to earn full marks.

NO CALCULATORS

1. Determine the value of each square root:

$$\text{a) } \sqrt{\frac{1}{25}} = \frac{\sqrt{1}}{\sqrt{25}} = \frac{1}{5} \quad \text{c) } \sqrt{\frac{9}{121}} = \frac{\sqrt{9}}{\sqrt{121}} = \frac{3}{11}$$

$$\text{b) } \sqrt{0.16} = 0.4 \quad \text{d) } \sqrt{1.44} = 1.2$$

2. Determine the side length of a square with area 0.64 m^2 .

$$\sqrt{\text{area}} = \text{side length} \quad \therefore \sqrt{0.64 \text{ m}^2} = 0.8 \text{ m}$$

$$\therefore \text{side length} = 0.8 \text{ m}$$

3. Calculate the number whose square root is: ($\sqrt{?} = 0.7$)

$$\text{a) } 0.7 \quad \begin{array}{r} \therefore 0.7 \\ \times 0.7 \\ \hline 49 \\ 000 \\ \hline 0.49 \end{array} \quad \therefore \sqrt{0.49} = 0.7$$

$$\text{b) } \frac{2}{13} \quad \therefore \frac{2}{13} \times \frac{2}{13} = \frac{4}{169} \quad \therefore \sqrt{\frac{4}{169}} = \frac{2}{13}$$

4. Classify each fraction below as a perfect square or non-perfect square.

JUSTIFY YOUR ANSWER.

$$\text{a) } \frac{7}{64} - \text{No since 7 is not a perfect square}$$

$$\text{b) } \frac{12}{27} \div 3 = \frac{4}{9}$$

$$\text{c) } \frac{8}{18} \div 2 = \frac{4}{9}$$

Yes, since in reduced form both num. + den. are perfect squares.

5. Classify each decimal below as a perfect square or non-perfect square.

JUSTIFY YOUR ANSWER.

a) 0.016 - No since an odd # of decimal places

Also, $0.016 = \frac{16}{1000}$

$\neq 1000$ is not a p.s.

b) 0.09 Yes - since a perfect square with an even # of decimal places

$\sqrt{0.09} = 0.3$

c) 1.21 Yes, since $1.1 \times 1.1 = 1.21$ and since 1.21 is a p.s with an even # of decimal places

6. Use any strategy you wish to estimate the value of each square root.

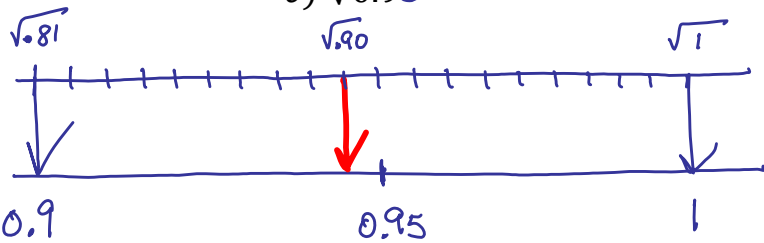
JUSTIFY YOUR ANSWER.

a) $\sqrt{\frac{1}{35}} \doteq \sqrt{\frac{1}{36}}$

$\sqrt{\frac{1}{36}} = \frac{\sqrt{1}}{\sqrt{36}} = \frac{1}{6}$

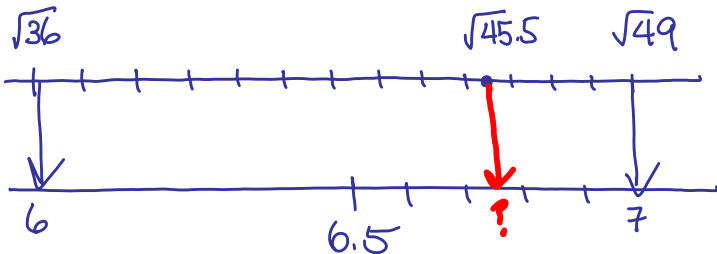
$\therefore \sqrt{\frac{1}{35}} \doteq \frac{1}{6}$

c) $\sqrt{0.90}$



$\therefore \sqrt{0.9} \doteq 0.95$

e) $\sqrt{45.5} \doteq 6.75$

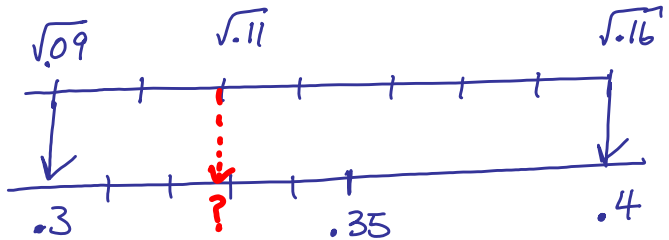


b) $\sqrt{\frac{65}{4}} \doteq \sqrt{16}$

$\sqrt{16} = 4$

$\therefore \sqrt{\frac{65}{4}} \doteq 4$

d) $\sqrt{0.11}$



$\therefore \sqrt{0.11} \doteq 0.33$

f) $\sqrt{\frac{8}{17}} \doteq \sqrt{\frac{8}{16}} = \sqrt{\frac{1}{2}}$

$\sqrt{\frac{1}{2}} = \sqrt{0.50}$

$\sqrt{0.50} \doteq \sqrt{0.49}$

$\sqrt{0.49} = 0.7$

$\therefore \sqrt{\frac{8}{17}} \doteq 0.7$