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BLM 2–11

Section 2.4 Extra Practice

1. i) Estimate, **ii)** then calculate, the number that has the given square root.

a) 4.4

(i) 4^2 = _____

5^2 = _____

4.4^2 ≈ _____

(ii) 4.4^2 = _____

b) 11.7

(i) 11^2 = _____

12^2 = _____

11.7^2 ≈ _____

(ii) 11.7^2 = _____

c) 0.78

(i) 0.7^2 = _____

0.8^2 = _____

0.78^2 ≈ _____

(ii) 0.78^2 = _____

d) 10.3

(i) _____ = _____

_____ = _____

_____ ≈ _____

(ii) _____ = _____

2. Estimate (i), then calculate (ii), the area of each square, given its side length. Remember to include the units in each summary statement.

a) 2.3 cm

(i) 2^2 = _____

3^2 = _____

2.3^2 ≈ _____ An estimate for area of the square is _____.

(ii) 2.3^2 = _____ The area of the square is _____.

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b) 8.9 m **(i)** $(8\text{ m})^2$ = _____

$(9\text{ m})^2$ = _____

$(8.9\text{ m})^2$ ≈ _____ An estimate for area of the square is _____.

(ii) $(8.9\text{ m})^2$ = _____ The area of the square is _____.

c) 0.52 mm **(i)** $(0.5\text{ mm})^2$ = _____

$(0.6\text{ mm})^2$ = _____

$(0.52\text{ mm})^2$ ≈ _____ An estimate for area of the square is _____.

(ii) $(0.52\text{ mm})^2$ = _____ The area of the square is _____.

d) 0.086 km **(i)** $(0.08\text{ km})^2$ = _____

$(0.09\text{ km})^2$ = _____

$(0.086\text{ km})^2$ ≈ _____ An estimate for area of the square is _____.

(ii) $(0.086\text{ km})^2$ = _____ The area of the square is _____.

3. Determine whether each rational number is a perfect square. If it is a perfect square, write the product as an expression of two equal rational factors.

a) 0.9 YES NO _____

b) $\frac{1}{4}$ YES NO _____

c) $\frac{25}{9}$ YES NO _____

d) 0.81 YES NO _____

e) $\frac{1}{10}$ YES NO _____

f) 1.44 YES NO _____

g) 0.0001 YES NO _____

h) $\frac{1}{100}$ YES NO _____

4. Evaluate. Show your work.

a) $\sqrt{256}$

b) $\sqrt{3.61}$

c) $\sqrt{1225}$

d) $\sqrt{0.0484}$

5. Calculate the side length of each square from its area. Show your work**.**

a) 1.21 cm^2

b) 625 m^2

c) 0.09 mm^2

d) 0.36 km^2

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6. (i) Estimate, **(ii)** then calculate, each square root to the specified number of decimal places.

Example: $\sqrt{56}$ to the nearest hundredth

i) $\sqrt{49}$ 7, $\sqrt{64}$ 8, $\sqrt{56}$ 7.5 **ii)** 7.48

a) $\sqrt{83}$ to the nearest tenth

i) _____ **ii)** _____

b) $\sqrt{5.6}$ to the nearest hundredth

i) _____ **ii)** _____

c) $\sqrt{0.91}$ to the nearest thousandth

i) _____ **ii)** _____

7. A square lot has an area of 0.5 ha. What are the lot's dimensions to the nearest metre? Show your work. **Hint:** 1 ha = 10 000 m^2

8. Find the difference between the square of 9 and the square root of 9. Show your work.