CHECK YOUR UNDERSTANDING QUESTIONS

Before you start, circle 3 questions that you think are most important for furthering your learning. The answer key is on the back.

1. Find the area of a square with each side length.
   a. 8 units = 64 square units
   b. 10 units = 100 square units
   c. 3 units = 9 square units

$A = l \times w$

$8 \times 8 = 8^2 = 64$ (8 | 64 | 8)

$10 \times 10 = 10^2 = 100$ (10 | 100 | 10)

$3 \times 3 = 3^2 = 9$ (3 | 9 | 3)

2. Use a diagram to show that each number below is a square number. Label the side lengths.
   a. 9
   b. 49
   c. 81

(See graph paper)

3. Use diagrams to explain why 24 is not a square number but 25 is. See graph paper

4. Find the side length of a square with each area.
   a. $100m^2 = 10m$ — $100 = 10^2 = 10 \times 10$
   b. $16m^2 = 4m$ — $16 = 4^2 = 4 \times 4$
   c. $64m^2 = 8m$ — $64 = 8^2 = 8 \times 8$
   d. $121m^2 = 11m$ — $121 = 11^2 = 11 \times 11$

$A = l \times w$

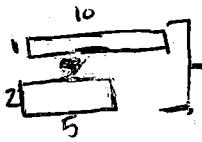
(10 | 100 | 10) (4 | 16 | 4) (8 | 64 | 8) (11 | 121 | 11)

$\sqrt{100} = \sqrt{10 \times 10} = \sqrt{10^2} = 10$

$\sqrt{16} = \sqrt{4 \times 4} = \sqrt{4^2} = 4$

$\sqrt{64} = \sqrt{8 \times 8} = \sqrt{8^2} = 8$

$\sqrt{121} = \sqrt{11 \times 11} = \sqrt{11^2} = 11$



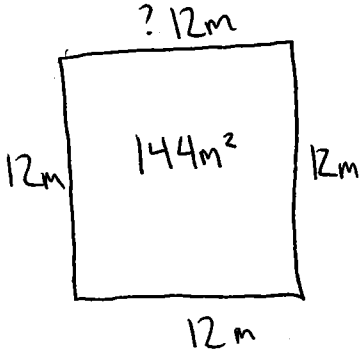
5. Which of these numbers is a perfect square? How do you know?
   a. 10
   b. 144
   c. 50
   d. 200

It's the only one that can be drawn as a square or with equal units on each side.

(144 | 12 | 12)

$\sqrt{144} = \sqrt{12 \times 12} = \sqrt{12^2} = 12$

6. The floor of a large square room has an area of $144m^2$.
   a. Find the length of a side of the room.
   b. How much baseboard is needed to go around the room?
   c. Each piece of baseboard is 2.5 m long. How many pieces of baseboard are needed? What assumptions do you make?



a) $144 = 12 \times 12 = 12^2$ (12m)

b) $12 + 12 + 12 + 12 = 48m$ of baseboard

c) $\frac{48}{2.5} = 19.2$

20 pieces of baseboard are needed because I assumed that you can't buy a part of a baseboard. (Your answer may be different)

(2) a) 3

3

9

b) 7

7

49

9

c)

9

81

2

12

24

(3)

5

5

25

4

5

24

a

25 can make a square with equal side lengths

24 cannot form a square with equal sides