**Grade 8 Math In–Class Assignment Unit 1**

**Squares and Square Roots**

**Sections 1.1 – 1.4**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Selected Response. Place the letter of the best response in the blank to the left.** [10 marks]

\_\_\_\_\_\_\_\_\_ 1. Which number is a perfect square?

 (A) 8

 (B) 16

 (C) 24

 (D) 50

\_\_\_\_\_\_\_\_\_ 2. The length of one side of a square is 9 cm. What is the area of the square, in $cm^{2}$?

 (A) 3

 (B) 18

 (C) 36

 (D) 81

\_\_\_\_\_\_\_\_\_ 3. What is the square root of 9?

 (A) 3

 (B) 4.5

 (C) 18

 (D) 81

\_\_\_\_\_\_\_\_\_ 4. What is the length of one side of the square below?

 (A) 7 m

 (B) 24.5 m

 (C) 28 m

 (D) 98 m

Area = 49 $m^{2}$

\_\_\_\_\_\_\_\_\_ 5. What is the square of 4?

 (A) 2

 (B) 8

 (C) 16

 (D) 32

\_\_\_\_\_\_\_\_\_ 6. What is $\sqrt{64}$ ?

 (A) 4

 (B) 8

 (C) 32

 (D) 128

\_\_\_\_\_\_\_\_\_ 7. What is the square root of $15^{2}$?

 (A) 7.5

 (B) 15

 (C) 30

 (D) 225

\_\_\_\_\_\_\_\_\_ 8. The factors of 4 different numbers are listed below. Which number is a perfect square?

 (A) {1, 2, 3, 4, 6, 12}

 (B) {1, 2, 4, 8, 16, 32}

 (C) {1, 2, 4, 8, 16, 32, 64}

 (D) {1, 2, 4, 5, 8, 10, 16, 20, 40, 80}

\_\_\_\_\_\_\_\_\_ 9. Which is the best estimate of $\sqrt{46}$?

 (A) 6.1

 (B) 6.7

 (C) 7.2

 (D) 7.8

\_\_\_\_\_\_\_\_\_ 10. Between which 2 consecutive whole numbers is $\sqrt{71}$

 (A) 6 and 7

 (B) 7 and 8

 (C) 8 and 9

 (D) 9 and 10

**Section 2 – Show all workings.**

11. Use a diagram to show why 36 is a perfect square. [2 marks]

12. Solve: [6 marks]

 A. $\sqrt{36}$ = B. $\sqrt{121}$ = C. $\sqrt{1}$

 C. $5^{2}$ = D. $12^{2}$ = F. $\sqrt{3^{2}}$

13. Identify a whole number that has a square root between 4 and 5. Explain how you got your answer. [2 marks]

14. Estimate $\sqrt{23}$ to one decimal place. Explain your answer. [2 marks]

15. Order from least to greatest. Show all workings. [2 marks]

 $\sqrt{25}, 4, \sqrt{49}, 3$

16. A large square classroom has an area of $169 m^{2}$.

 A. What is the length of one side? [2 marks]

 B. What is the perimeter of the room? [1 mark]

17. John estimated the square root of 75 to be 8.3. Jill estimated the square root of 75 to be 8.7. Who had the better estimate? Explain. [3 marks]