Real numbers - Practice test 1

Name: _____ Date: _____

16 questions | 38 marks | 50 minutes

Classification, number-line order, root estimates and exact values.

A scientific calculator may be used.

1. Write -8 as a fraction to show it is rational. [2 marks]

2. Write 0.45 as a simplified fraction. [2 marks]

3. Is $\sqrt{64}$ rational or irrational? Explain. [2 marks]

4. Is $\sqrt{15}$ rational or irrational? Explain. [2 marks]

5. Write $0.\overline{36}$ as a simplified fraction. [3 marks]

6. Give consecutive integer bounds for $\sqrt{42}$. [2 marks]

7. Give consecutive integer bounds for $-\sqrt{17}$. [2 marks]

8. Order $\sqrt{5}$, 2.2 and $\frac{9}{4}$ from least to greatest. [3 marks]

9. Show that $\sqrt{26}$ lies between 5.0 and 5.1. [2 marks]

10. Find $\sqrt{34}$ to one decimal place. [2 marks]

11. A square tile has area $19\ \text{cm}^2$. Give its exact side. [2 marks]

12. Give the side of a square with area $19\ \text{cm}^2$ to two decimal places. [2 marks]

13. A circle has radius $4\ \text{m}$. Give its circumference to one decimal place. [3 marks]

14. Explain why $\pi = 3.1416$ is an incorrect statement, even though 3.1416 is useful. [3 marks]

15. A square garden has area $120\ \text{m}^2$. Find its perimeter to one decimal place. [3 marks]

16. A student squares 1.4 and says $\sqrt{2}$ cannot be real because $1.4^2 \neq 2$. Explain the error. [3 marks]