Topic test | Real numbers

Real numbers - Practice test 2

Name: _____ Date: _____

16 questions | 38 marks | 50 minutes

Explain classifications and compare exact values with rounded measurements.

A scientific calculator may be used.

1. Classify $-\frac{3}{5}$ and state why. [2 marks]

2. Classify each number as rational or irrational. Explain each answer. [4 marks]

(a) $\sqrt{100}$ [2 marks]

(b) $\sqrt{101}$ [2 marks]

3. Give a terminating decimal between 0.2 and 0.3 and express it as a fraction. [2 marks]

4. Write $0.\overline{4}$ as a fraction. [2 marks]

5. Give consecutive integer bounds for $\sqrt{93}$. [2 marks]

6. Which is larger: -2.7 or $-\sqrt{8}$? Explain. [3 marks]

7. Order $-\sqrt{10}$, -3, $-\frac{13}{4}$ and 0. [3 marks]

8. Check whether $6.4 < \sqrt{41} < 6.5$. [2 marks]

9. Estimate $\sqrt{58}$ to one decimal place. [2 marks]

10. A square has side $\sqrt{32}$ cm. Find its exact area. [2 marks]

11. A circle has diameter 9 cm. Give its exact circumference. [2 marks]

12. Round 9π to two decimal places. [2 marks]

13. Evaluate $25\sqrt{3}$ to two decimal places without rounding the root first. [2 marks]

14. A square play area has area $200\ \text{m}^2$. Find the least whole number of metres of fencing to enclose all four sides. [3 marks]

15. Use $r = \frac{C}{2\pi}$ to find the radius for circumference $75\ \text{cm}$. Give two decimal places. [2 marks]

16. A calculator shows $\sqrt{7} = 2.645751311$. Does this prove the exact root is a terminating decimal? Explain. [3 marks]