

Algebra 1 - Unit 1 Quiz

Name: _____

Date: _____

Show steps. Simplify as much as possible. Box final answers.

Lesson 1: Real Numbers and Sets

For 1-4, check all classifications that apply.

1. Classify -8.

- ☐ Real ☐ Natural ☐ Whole
☐ Integer ☐ Rational ☐ Irrational

2. Classify $\frac{3}{4}$.

- ☐ Real ☐ Natural ☐ Whole
☐ Integer ☐ Rational ☐ Irrational

3. Classify $\sqrt{49}$.

- ☐ Real ☐ Natural ☐ Whole
☐ Integer ☐ Rational ☐ Irrational

4. Classify $\sqrt{11}$.

- ☐ Real ☐ Natural ☐ Whole
☐ Integer ☐ Rational ☐ Irrational

5. Let $A = \{1, 2, 3, 4, 5\}$ and $B = \{3, 5, 6\}$. Find the intersection and the union of A and B.

Intersection: _____

Union: _____

Lesson 2: Expressions and Operations

6. Name the property: $7 + 12 = 12 + 7$.

7. Evaluate: $3 + 2(5^2 - 7)$

8. Simplify: $-4(2x - 3) + 5$

9. Factor completely: $24x + 36$

10. Simplify: $(2x^2 + 3x - 4) - 2(x^2 - 7x + 5)$

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Lessons 1-3: Cumulative Skills

11. Evaluate $3a^2 - 2b$ when $a = -2$ and $b = 5$.

12. Evaluate $2m^2 - 3mn + n^2$ when $m = -1$ and $n = 4$.

13. Convert $\frac{4}{9}$ to a decimal.

14. Convert $0.\overline{36}$ to a fraction in simplest form.

Lesson 3: Significant Figures

For 15-17, state the number of significant figures.

15. 1.250 _____

16. 0.002340 _____

17. 8400.0 _____

18. A rectangle is 5.26 m long and 3.2 m wide. Find its area and report the answer with the correct number of significant figures. (Can use calculator)

Bonus Question:

Solve for x

$$3x - 4 = 11$$