

Review of Math 9 Answer Section

MULTIPLE CHOICE

1. ANS: D PTS: 1 DIF: Moderate
REF: 1.2 Square Roots of Non-Perfect Squares LOC: 9.N6
TOP: Number KEY: Conceptual Understanding
2. ANS: C PTS: 1 DIF: Moderate REF: 2.5 Exponent Laws II
LOC: 9.N2 TOP: Number KEY: Procedural Knowledge
3. ANS: A PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?
LOC: 9.N3 TOP: Number KEY: Conceptual Understanding | Procedural Knowledge
4. ANS: B PTS: 1 DIF: Easy REF: 4.2 Linear Relations
LOC: 9.PR2 TOP: Patterns and Relations (Patterns) KEY: Conceptual Understanding
5. ANS: B PTS: 1 DIF: Easy REF: 4.4 Matching Equations and Graphs
LOC: 9.PR2 TOP: Patterns and Relations (Patterns) KEY: Procedural Knowledge
6. ANS: A PTS: 1 DIF: Easy REF: 4.4 Matching Equations and Graphs
LOC: 9.PR2 TOP: Patterns and Relations (Patterns) KEY: Procedural Knowledge
7. ANS: C PTS: 1 DIF: Easy REF: 4.4 Matching Equations and Graphs
LOC: 9.PR2 TOP: Patterns and Relations (Patterns) KEY: Procedural Knowledge
8. ANS: B PTS: 1 DIF: Moderate
REF: 4.5 Using Graphs to Estimate Values LOC: 9.PR2
TOP: Patterns and Relations (Patterns) KEY: Procedural Knowledge
9. ANS: B PTS: 1 DIF: Easy
REF: 6.1 Solving Equations by Using Inverse Operations LOC: 9.PR3
TOP: Patterns and Relations (Variables and Equations) KEY: Procedural Knowledge
10. ANS: B PTS: 1 DIF: Moderate REF: 3.1 What Is a Rational Number?
LOC: 9.N3 TOP: Number KEY: Conceptual Understanding | Procedural Knowledge
11. ANS: C PTS: 1 DIF: Moderate
REF: 6.1 Solving Equations by Using Inverse Operations LOC: 9.PR3
TOP: Patterns and Relations (Variables and Equations) KEY: Procedural Knowledge
12. ANS: C PTS: 1 DIF: Easy
REF: 7.1 Scale Diagrams and Enlargements LOC: 9.SS4
TOP: Shape and Space (Transformations) KEY: Procedural Knowledge
13. ANS: A PTS: 1 DIF: Easy
REF: 7.6 Rotations and Rotational Symmetry LOC: 9.SS5
TOP: Shape and Space (Transformations) KEY: Procedural Knowledge
14. ANS: D PTS: 1 DIF: Easy
REF: 7.7 Identifying Types of Symmetry on the Cartesian Plane
LOC: 9.SS5 TOP: Shape and Space (Transformations)
KEY: Procedural Knowledge
15. ANS: C PTS: 1 DIF: Easy REF: 8.2 Properties of Chords in a Circle
LOC: 9.SS1 TOP: Shape and Space (Measurement) KEY: Conceptual Understanding
16. ANS: B PTS: 1 DIF: Moderate REF: 8.2 Properties of Chords in a Circle
LOC: 9.SS1 TOP: Shape and Space (Measurement) KEY: Conceptual Understanding

17. ANS: B PTS: 1 DIF: Easy REF: 9.1 Probability in Society
 LOC: 9.SP4 TOP: Statistics and Probability (Chance and Uncertainty)
 KEY: Conceptual Understanding
18. ANS: D PTS: 1 DIF: Moderate
 REF: 9.3 Using Samples and Populations to Collect Data LOC: 9.SP2
 TOP: Statistics and Probability (Data Analysis) KEY: Conceptual Understanding
19. ANS: D PTS: 1 DIF: Easy REF: 9.4 Selecting a Sample
 LOC: 9.SP2 TOP: Statistics and Probability (Data Analysis)
 KEY: Conceptual Understanding
20. ANS: D PTS: 1 DIF: Easy REF: 9.4 Selecting a Sample
 LOC: 9.SP2 TOP: Statistics and Probability (Data Analysis)
 KEY: Conceptual Understanding

SHORT ANSWER

21. ANS:

$$\left(\frac{2^2}{5^0}\right)^4 = \left(\frac{2^2}{1}\right)^4 = 2^8 = 256$$

PTS: 1 DIF: Moderate REF: 2.5 Exponent Laws II
 LOC: 9.N2 TOP: Number KEY: Procedural Knowledge

22. ANS:

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PTS: 1 DIF: Moderate REF: 3.4 Multiplying Rational Numbers
 LOC: 9.N3 TOP: Number KEY: Procedural Knowledge

23. ANS:

The area that needs to be painted is about 1472 m².

PTS: 1 DIF: Moderate REF: 1.4 Surface Areas of Other Composite Objects
 LOC: 9.SS2 TOP: Shape and Space (3-D Objects and 2-D Shapes)
 KEY: Procedural Knowledge | Problem-Solving Skills

24. ANS:

a)

x	2	3	4	5	6
y	13	16	19	22	25

b) $y = 3x + 7$

PTS: 1 DIF: Moderate REF: 4.2 Linear Relations
 LOC: 9.PR2 TOP: Patterns and Relations (Patterns)
 KEY: Conceptual Understanding | Procedural Knowledge

25. ANS:
 $-5d^2 + 4d$
- PTS: 1 DIF: Moderate REF: 5.5 Multiplying and Dividing a Polynomial by a Constant
 LOC: 9.PR7 TOP: Patterns and Relations (Variables and Equations)
 KEY: Procedural Knowledge
26. ANS:
 $3x + 4 = 2x + 2$
 $x = -2$
- PTS: 1 DIF: Moderate REF: 6.2 Solving Equations by Using Balance Strategies
 LOC: 9.PR3 TOP: Patterns and Relations (Variables and Equations)
 KEY: Procedural Knowledge
27. ANS:
 Errors:
 The student forgot to multiply -5 by 3 when using the distributive property.
 $7 - 3x$ is not equal to $4x$.
- PTS: 1 DIF: Moderate REF: 6.2 Solving Equations by Using Balance Strategies
 LOC: 9.PR3 TOP: Patterns and Relations (Variables and Equations)
 KEY: Procedural Knowledge | Communication
28. ANS:
 a) Yes
 b) No
 c) Yes
 d) Yes
- PTS: 1 DIF: Easy
 REF: 6.5 Solving Linear Inequalities by Using Multiplication and Division
 LOC: 9.PR4 TOP: Patterns and Relations (Variables and Equations)
 KEY: Conceptual Understanding
29. ANS:
 $\frac{3}{8} = 0.375$
- PTS: 1 DIF: Easy REF: 7.2 Scale Diagrams and Reductions
 LOC: 9.SS4 TOP: Shape and Space (Transformations)
 KEY: Procedural Knowledge
30. ANS:
 No
- PTS: 1 DIF: Moderate REF: 9.4 Selecting a Sample
 LOC: 9.SP2 TOP: Statistics and Probability (Data Analysis)
 KEY: Conceptual Understanding