Name: _____ **Class:** _____ **Date:** _____ **ID: A**

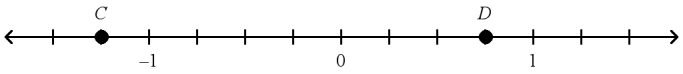
Math 9 Final - Practice Test

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Which number is not between $-\frac{2}{5}$ and $-\frac{3}{4}$?

a. $-\frac{4}{5}$
b. $-\frac{13}{20}$
c. $-\frac{1}{2}$
d. $-\frac{3}{5}$

____ 2. Which value describes the positions of *C* and *D*?



a. $-2\frac{3}{4}$ and $1\frac{1}{4}$
b. $-1\frac{1}{4}$ and $\frac{3}{4}$
c. $-\frac{5}{4}$ and $\frac{5}{4}$
d. –1.2 and 0.75

____ 3. Which of the following rational numbers are equivalent?

A: 2.7, B: 7.2, C: $\frac{27}{10}$, D: $-\frac{72}{10}$

a. A and B
b. C and D
c. B and D
d. A and C

____ 4. Select the symbol that makes the following statement true.

$0 \square -0.4$

a. >
b. <
c. =

____ 5. Evaluate –4.2 + (–3.8).

a. –8
b. 8
c. –0.4
d. 0.4

____ 6. Calculate the exact answer.

–2.1 + (–3.33) + 2.01

a. -3.24
b. -3.42
c. 7.44
d. 3.33

____ 7. Choose the correct value of $(x + y)(x - y)$ when $x = 3.5$ and $y = -8.7$.

a. –63.44
b. 148.84
c. 10.4
d. 24.4

____ 8. Choose the correct value of $(-3 / 7)(6 / -5)$

a. $-5 / 7$
b. $18 / 35$
c. $15 / 42$
d. $-5 / 14$

____ 9. Which operation would you perform last in this calculation?

$9 \div (-2.3) + (5.8 - 3.1)$

a. +
b. –
c. ×
d. ÷

____ 10. What is the side length of a square with an area of 16 m^2?
a. 2 m
b. 3 m
c. 4 m
d. 5 m

____ 11. Evaluate $(-8)^3$.
a. 512
b. –512
c. 24
d. –24

____ 12. Evaluate -5^2.
a. 125
b. –125
c. –25
d. 25

____ 13. Simplify $(7^2)(7^9) \div (7^2)^4(7^3)$.
a. 7^{22}
b. 7^0
c. 7^1
d. 7^6

____ 14. What is the exponent that makes $3^4 = 9^{\square}$ true?
a. 1
b. 2
c. 3
d. 4

____ 15. Evaluate $\left(\frac{3^3}{3^2}\right)^2$.
a. 7
b. 8
c. 9
d. 1

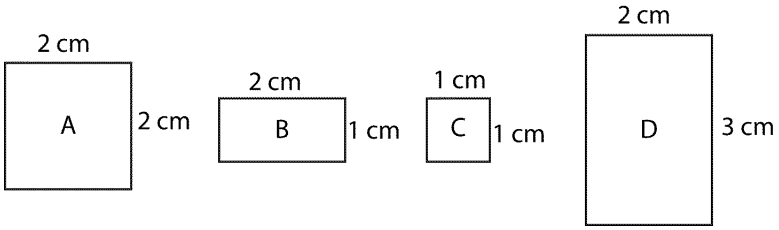
____ 16. Evaluate $2^4 + 2^6$.
a. 16
b. 80
c. 64
d. 1024

____ 17. What is the missing number in $\sqrt{\square} = 4.3$?
a. 18.46
b. 18.47
c. 18.48
d. 18.49

____ 18. Evaluate $\sqrt{\frac{225}{324}}$.

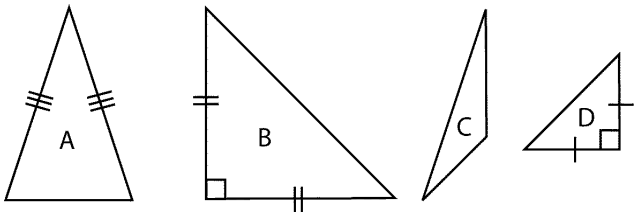
a. $\frac{18}{15}$
c. $\frac{15}{18}$
b. $\frac{225}{324}$
d. $\frac{75}{108}$

____ 19. Which shapes are similar?



a. A and C
c. B and D
b. B and C
d. C and D

____ 20. Which two triangles are similar?



a. A and B
c. B and C
b. A and C
d. B and D

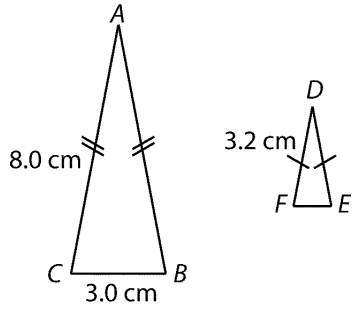
____ 21. A square with side lengths of 15 cm is reduced by a scale factor of 0.8. Determine the side lengths of the new square.

a. 4 cm
c. 12 cm
b. 8 cm
d. 18.75 cm

____ 22. A plush toy is a scale model of a horse in which 1 cm represents 3 cm. The head on the model is 15 cm long
How long is the head of the real horse?

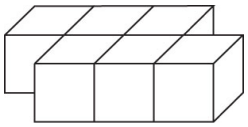
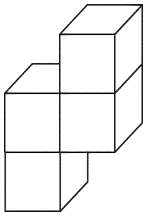
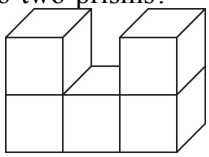
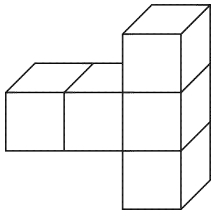
a. 15 cm
c. 30 cm
b. 45 cm
d. 60 cm

____ 23. Triangles *ABC* and *DEF* are similar.
What is the length of *EF*?

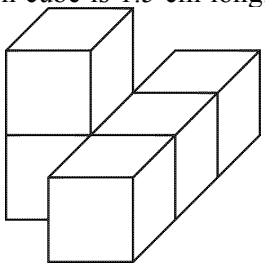


a. 7.5 cm
b. 0.9 cm
c. 1.2 cm
d. 1.4 cm

____ 24. Which of these objects cannot be decomposed into two prisms?

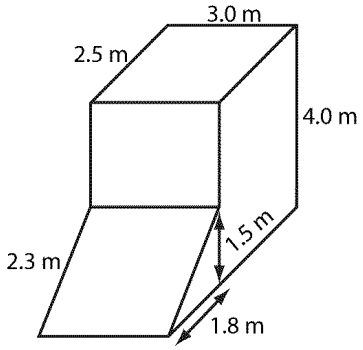
a. 
b. 
c. 
d. 

____ 25. Each cube is 1.5 cm long. Calculate the surface area.



a. 11.0 cm^2
b. 42.8 cm^2
c. 49.5 cm^2
d. 40.5 cm^2

____ 26. Calculate the surface area.



a. 69.5 m^2
b. 74.0 m^2
c. 78.5 m^2
d. 56.6 m^2

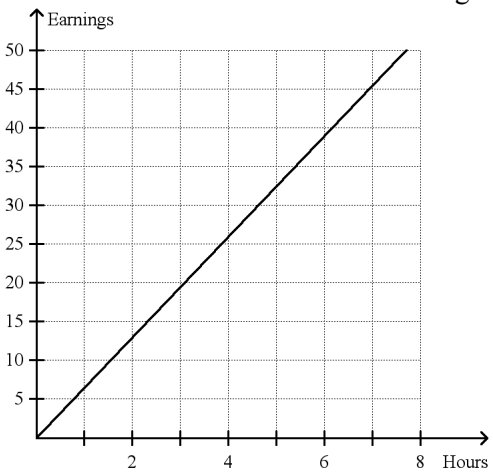
____ 27. Larry runs a dog-walking service. He charges \$5/h plus a flat fee of \$6. One day, he earned \$16. Determine which equation represents this.

a. $5h \times 6 = 16$
b. $5h + 6 = 16$
c. $16h + 5 = 600$
d. $16 + 5h = 6$

____ 28. Determine the rate of change for the relation $y = -4x$.

a. -4
b. 0
c. 3
d. 7

____ 29. Determine which situation matches the graph.



a. Rachael earns \$8.50/h babysitting.
b. Christine earns \$6/h painting.
c. Jerry earns \$6.50/h shovelling snow.
d. Ian earns \$7/h tutoring.

____ 30. Estimate a solution to the equation $-2x + 7 = -5$.

a. 3
b. 6
c. 8
d. 11

____ 31. Determine the solution to the equation $\frac{18}{x} = 9$.

a. 2
b. 8
c. 11
d. 15

____ 32. Determine which equation is equivalent to $4x - 1 = 11$.

a. $4x = 10$
b. $4 - 1x = 11x$
c. $4x - 1x = 11$
d. $4x = 12$

____ 33. Choose which equation is equivalent to $\frac{x}{3} - \frac{x}{5} = 2$.

a. $5x - 3x = 30$
b. $3x - 5x = 30$
c. $5x - 3x = 2$
d. $3x - 5x = 2$

____ 34. Determine the relation that matches the table of values.

x	1	2	3
y	13	11	9

a. $y = 21 - 2x$
b. $y = 4x$
c. $y = 3x + 7$
d. $y = 15 - 2x$

____ 35. Determine the solution to the equation $\frac{x}{3} - 7 = 5$.

a. 4
b. 12
c. 25
d. 36

____ 36. Determine which inequality matches the statement: A number is less than 4.

a. $x \leq 4$
b. $x > 4$
c. $x < 4$
d. $x \geq 4$

____ 37. Determine the solution to the inequality $9x + 6 \geq 11x$.

a. $x < 3$
b. $x > 3$
c. $x \leq 3$
d. $x \geq 3$

____ 38. Dan earns $8.50 per hour as a dishwasher. Determine the fewest number of hours he must work to earn more than $408.

a. 49
b. 56
c. 61
d. 67

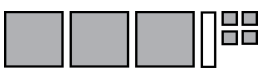
____ 39. Determine the coefficient of x in the polynomial $5x^2 + 2x + 7$.

a. 0
b. 2
c. 5
d. 7

____ 40. Determine the constant term in the polynomial $-2 + 8x$.

a. -8
b. -2
c. 2
d. 8

____ 41. Determine which polynomial expression matches the algebra tile model.



a. $-2x^2 - x - 4$
b. $-3x^2 + x - 4$
c. $3x^2 + 2x + 4$
d. $3x^2 - x + 5$

____ 42. Determine which polynomial is the quotient of $(5x^2 - 25x - 40) \div 5$.

a. $-x^2 + 5x + 8$
b. $x^2 + 5x + 8$
c. $-x^2 - 5x - 8$
d. $x^2 - 5x - 8$

____ 43. Determine the sum $(2x^2 - x + 4) + (x^2 + 7x + 1)$.

a. $3x^2 - 6x - 5$
b. $3x^2 + 6x + 5$
c. $x^2 + 8x + 3$
d. $x^2 - 8x - 3$

____ 44. Subtract $(-2x^2 + 5x - 9) - (2x - 7)$.

a. $-2x^2 + 3x - 2$
b. $-2x^2 + 7x - 16$
c. $-2x^2 + 7x - 2$
d. $-2x^2 + 3x - 16$

____ 45. Evaluate the polynomial $4x^2 - 6x - 3$ if $x = -2$.

a. 13
b. 18
c. 25
d. 31

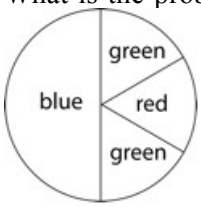
____ 46. Which of these everyday probabilities is most likely to be low?

a. the probability that if you don't brush your teeth regularly you'll get cavities
b. the probability that at least one person in your class is wearing brown socks
c. the probability that the sum of two dice is greater than 4
d. the probability of choosing an ace of spades from a standard deck

____ 47. A coin is tossed three times. What is the number of possible outcomes?

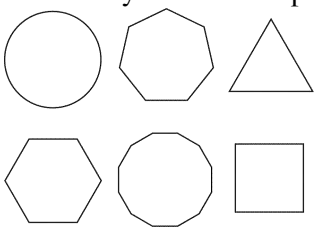
a. 2
b. 4
c. 8
d. 12

____ 48. What is the probability that you will spin red on this spinner?



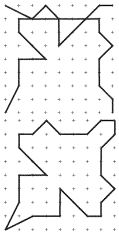
a. $\frac{1}{6}$
b. $\frac{1}{5}$
c. $\frac{1}{4}$
d. $\frac{1}{3}$

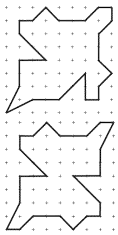
____ 49. How many of these shapes have 5 or more lines of symmetry?



a. 1
b. 3
c. 4
d. 6

____ 50. Which of the these designs has line symmetry?

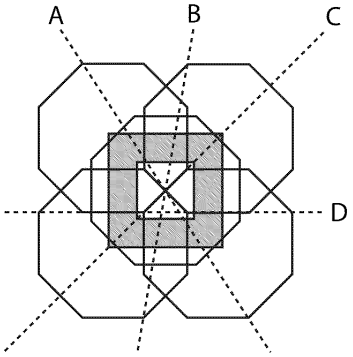
a. 

c. 

b.

d.

____ 51. Which line is a line of symmetry for the design?



a. A
b. B
c. C
d. D

____ 52. Which of these designs has exactly six lines of symmetry?

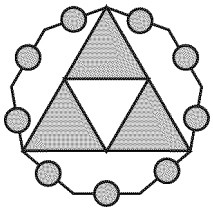
a. 

c. 

b. 

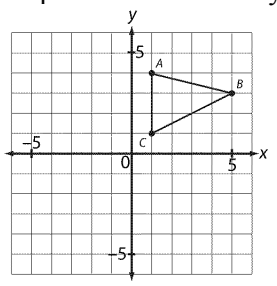
d. 

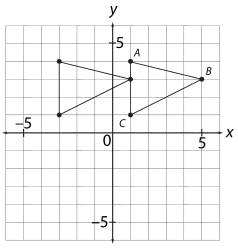
____ 53. What is the order of rotation symmetry of this design?

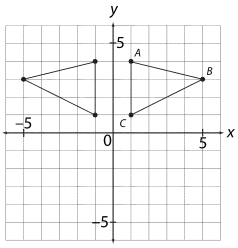


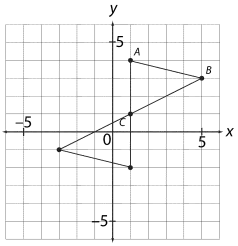
a. 1
b. 2
c. 3
d. 4

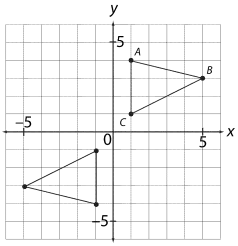
____ 54. Which of the following represents the combined design when Figure *ABC* is rotated 180? about the origin to produce rotation symmetry?



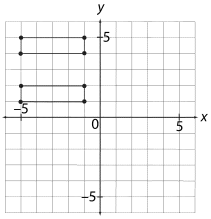
a. 

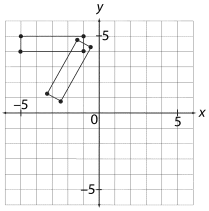
c. 

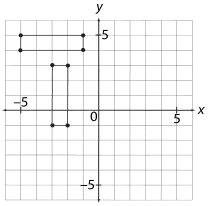
b. 

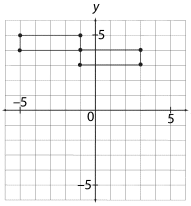
d. 

____ 55. In which case are the two shapes related by line symmetry and rotation symmetry?

a. 

c. 

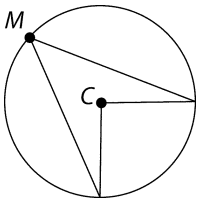
b. 

d. 

____ 56. Point A has coordinates (4, –3). It is reflected across the x-axis to create point A'. What are the coordinates of A'?

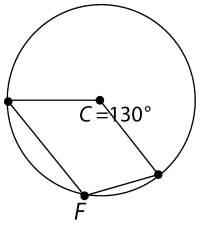
a. (1, –3)
b. (–4, 3)
c. (4, 3)
d. (–4, –3)

____ 57. If $\angle M = 47°$, determine the measure of the central angle.



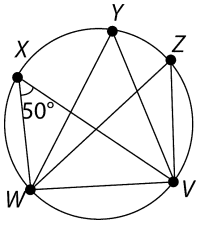
a. 94°
b. 90°
c. 104°
d. 23.5°

____ 58. Determine the measure of $\angle F$.



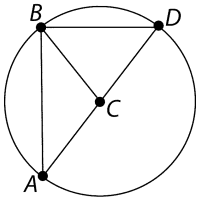
a. 260°
b. 65°
c. 115°
d. 100°

____ 59. Determine the measure of $\angle Y$ and $\angle Z$.



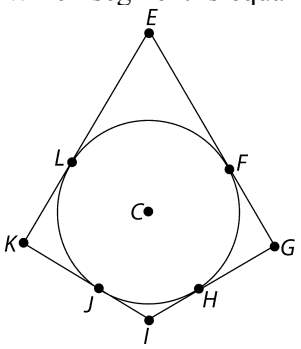
a. 50°, 50°
b. 60°, 50°
c. 60°, 70°
d. 100°, 100°

____ 60. If $AC = 7$ cm, what is the length of AD?



a. 3.5 cm
b. 5 cm
c. 7 cm
d. 14 cm

____ 61. Which segment is equal to *FG*?



a. *EF*
b. *GH*
c. *KL*
d. *HI*

____ 62. A tangent comes in contact with the radius of a circle at an angle of:

a. 30°
b. 60°
c. 90°
d. all of the above

Math 9 Final - Practice Test
Answer Section

MULTIPLE CHOICE

1. ANS: A PTS: 1 DIF: Grade 9 REF: 1.1
   OBJ: N3 TOP: Interpreting Rational Numbers KEY: rational numbers
2. ANS: B PTS: 1 DIF: Grade 9 REF: 1.1
   OBJ: N3 TOP: Interpreting Rational Numbers KEY: rational numbers
3. ANS: D PTS: 1 DIF: Grade 9 REF: 1.1
   OBJ: N3 TOP: Interpreting Rational Numbers KEY: rational numbers
4. ANS: A PTS: 1 DIF: Grade 9 REF: 1.2
   OBJ: N3 TOP: Comparing and Ordering Rational Numbers
   KEY: negative rational numbers | positive rational numbers
5. ANS: A PTS: 1 DIF: Grade 9 REF: 1.3
   OBJ: N3 TOP: Adding and Subtracting Rational Numbers
   KEY: rational numbers
6. ANS: B PTS: 1 DIF: Grade 9 REF: 1.3
   OBJ: N3 TOP: Adding and Subtracting Rational Numbers
   KEY: rational numbers
7. ANS: A PTS: 1 DIF: Grade 9 REF: 1.4
   OBJ: N3 TOP: Multiplying and Dividing Rational Numbers
   KEY: rational numbers
8. ANS: B PTS: 1 DIF: Grade 9 REF: 1.4
   OBJ: N3 TOP: Multiplying and Dividing Rational Numbers
   KEY: rational numbers
9. ANS: A PTS: 1 DIF: Grade 9 REF: 1.5
   OBJ: N4 TOP: Order of Operations with Rational Numbers
   KEY: rational numbers | order of operations | BDMAS
10. ANS: C PTS: 1 DIF: Grade 9 REF: 2.1
    OBJ: N1 TOP: Modelling Squares and Cubes KEY: Powers, Exponents, Square Roots
11. ANS: B PTS: 1 DIF: Grade 9 REF: 2.2
    OBJ: N1 TOP: Expressing a Number as a Power KEY: Powers, Exponents, Square Roots
12. ANS: C PTS: 1 DIF: Grade 9 REF: 2.2
    OBJ: N1 TOP: Expressing a Number as a Power KEY: Powers, Exponents, Square Roots
13. ANS: D PTS: 1 DIF: Grade 9 REF: 2.4
    OBJ: N1 | N2 TOP: Multiplying and Dividing Powers KEY: Powers, Exponents, Square Roots
14. ANS: B PTS: 1 DIF: Grade 9 REF: 2.4
    OBJ: N1 | N2 TOP: Multiplying and Dividing Powers KEY: Powers, Exponents, Square Roots
15. ANS: C PTS: 1 DIF: Grade 9 REF: 2.5
    OBJ: N1 | N2 TOP: Combining Powers KEY: Powers | Exponents | Square Roots
16. ANS: B PTS: 1 DIF: Grade 9 REF: 2.6
    OBJ: N2 | N4 TOP: Communicate about Calculations with Powers
    KEY: Powers | Exponents | Square Roots
17. ANS: D PTS: 1 DIF: Grade 9 REF: 2.7
    OBJ: N5 TOP: Calculating Square Roots KEY: Powers | Exponents | Square Roots

18. ANS: C PTS: 1 DIF: Grade 9 REF: 2.7
OBJ: N5 TOP: Calculating Square Roots KEY: Powers | Exponents | Square Roots
19. ANS: A PTS: 1 DIF: Grade 9 REF: 3.2
OBJ: SS3 TOP: Determining Similarity KEY: similar
20. ANS: D PTS: 1 DIF: Grade 9 REF: 3.2
OBJ: SS3 TOP: Determining Similarity KEY: similar
21. ANS: C PTS: 1 DIF: Grade 9 REF: 3.3
OBJ: SS4 TOP: Scale Factors KEY: scale factor
22. ANS: B PTS: 1 DIF: Grade 9 REF: 3.5
OBJ: SS4 TOP: Solving Problems Involving Similar Shapes
KEY: scale model
23. ANS: C PTS: 1 DIF: Grade 9 REF: 3.5
OBJ: SS4 TOP: Solving Problems Involving Similar Shapes
KEY: similar
24. ANS: C PTS: 1 DIF: Grade 9 REF: 4.2
OBJ: SS2 TOP: Composite Objects and Their Components
KEY: composite objects
25. ANS: C PTS: 1 DIF: Grade 9 REF: 4.4
OBJ: SS2 TOP: Calculating the Surface Area of Composite Objects
KEY: composite objects| area of overlap| surface area
26. ANS: A PTS: 1 DIF: Grade 9 REF: 4.4
OBJ: SS2 TOP: Calculating the Surface Area of Composite Objects
KEY: composite objects| area of overlap| surface area
27. ANS: B PTS: 1 DIF: Grade 9 REF: 5.1
OBJ: PR3 TOP: Algebraic Relations KEY: equation
28. ANS: A PTS: 1 DIF: Grade 9 REF: 5.1
OBJ: PR3 TOP: Algebraic Relations KEY: rate of change | relation
29. ANS: C PTS: 1 DIF: Grade 9 REF: 5.2
OBJ: PR2 TOP: Graphing Linear Relations KEY: graph
30. ANS: B PTS: 1 DIF: Grade 9 REF: 5.3
OBJ: PR3 TOP: Interpreting the Solution of a Linear Equation
KEY: solution | equation
31. ANS: A PTS: 1 DIF: Grade 9 REF: 5.4
OBJ: PR3 TOP: Solving Linear Relations Using Inverse Operations
KEY: equation
32. ANS: D PTS: 1 DIF: Grade 9 REF: 5.4
OBJ: PR3 TOP: Solving Linear Relations Using Inverse Operations
KEY: equation | equivalent
33. ANS: A PTS: 1 DIF: Grade 9 REF: 5.4
OBJ: PR3 TOP: Equation Solving Strategies KEY: equation | equivalent
34. ANS: D PTS: 1 DIF: Grade 9 REF: 5.6
OBJ: PR1 TOP: Solve Problems Using Diagrams KEY: relation
35. ANS: D PTS: 1 DIF: Grade 9 REF: 5.6
OBJ: PR3 TOP: Solve Problems Using Diagrams KEY: equation
36. ANS: C PTS: 1 DIF: Grade 9 REF: 5.7
OBJ: PR4 TOP: Graphing Linear Inequalities KEY: inequality
37. ANS: C PTS: 1 DIF: Grade 9 REF: 5.9
OBJ: PR4 TOP: Solving a Linear Inequality KEY: inequality

38. ANS: A PTS: 1 DIF: Grade 9 REF: 5.9
OBJ: PR4 TOP: Solving a Linear Inequality KEY: inequality
39. ANS: B PTS: 1 DIF: Grade 9 REF: 6.1
OBJ: PR5 TOP: Polynomials KEY: degree | polynomials
40. ANS: B PTS: 1 DIF: Grade 9 REF: 6.1
OBJ: PR5 TOP: Polynomials KEY: degree | polynomials
41. ANS: B PTS: 1 DIF: Grade 9 REF: 6.3
OBJ: PR5 TOP: Adding Polynomials KEY: polynomials
42. ANS: D PTS: 1 DIF: Grade 9 REF: 6.6
OBJ: PR7 TOP: multiplication or divide polynomial by a monomial
KEY: polynomials | quotient
43. ANS: B PTS: 1 DIF: Grade 9 REF: 6.3
OBJ: PR5 TOP: Adding Polynomials KEY: polynomials | sum
44. ANS: A PTS: 1 DIF: Grade 9 REF: 6.4
OBJ: PR6 TOP: Subtracting Polynomials KEY: subtraction
45. ANS: C PTS: 1 DIF: Grade 9 REF: 6.5
OBJ: PR5 TOP: Polynomials KEY: polynomials
46. ANS: D PTS: 1 DIF: Grade 9 REF: 7.1
OBJ: SP4 TOP: Recognizing Probability Situations
KEY: probability
47. ANS: C PTS: 1 DIF: Grade 9 REF: 7.2
OBJ: SP4 TOP: Using Probabilities to Make Decisions
KEY: probability
48. ANS: A PTS: 1 DIF: Grade 9 REF: 7.3
OBJ: SP4 TOP: Communicate about Probability KEY: probability
49. ANS: C PTS: 1 DIF: Grade 9 REF: 8.1
OBJ: SS5 TOP: Line Symmetry KEY: line symmetry
50. ANS: B PTS: 1 DIF: Grade 9 REF: 8.1
OBJ: SS5 TOP: Line Symmetry KEY: line symmetry
51. ANS: C PTS: 1 DIF: Grade 9 REF: 8.1
OBJ: SS5 TOP: Line Symmetry KEY: line symmetry
52. ANS: C PTS: 1 DIF: Grade 9 REF: 8.1
OBJ: SS5 TOP: Line Symmetry KEY: line symmetry
53. ANS: C PTS: 1 DIF: Grade 9 REF: 8.2
OBJ: SS5 TOP: Rotation Symmetry
KEY: Order of Rotation Symmetry| Angle of Rotation
54. ANS: D PTS: 1 DIF: Grade 9 REF: 8.4
OBJ: SS5 TOP: Symmetry on the Coordinate Plane
KEY: Cartesian plane| reflect| rotate| centre of rotation
55. ANS: A PTS: 1 DIF: Grade 9 REF: 8.4
OBJ: SS5 TOP: Symmetry on the Coordinate Plane
KEY: Cartesian plane| reflect| rotate| centre of rotation
56. ANS: C PTS: 1 DIF: Grade 9 REF: 8.4
OBJ: SS5 TOP: Symmetry on the Coordinate Plane
KEY: Cartesian plane| reflect| rotate| centre of rotation
57. ANS: A PTS: 1 DIF: Grade 9 REF: 9.1
OBJ: SS1 TOP: Relating the Central Angle to an Inscribed Angle
KEY: subtend| arc| central angle| inscribed angles

58. ANS: C PTS: 1 DIF: Grade 9 REF: 9.1
OBJ: SS1 TOP: Relating the Central Angle to an Inscribed Angle
KEY: subtend| arc| central angle| inscribed angles
59. ANS: A PTS: 1 DIF: Grade 9 REF: 9.2
OBJ: SS1 TOP: Comparing Inscribed Angles KEY: subtend| arc| inscribed angles
60. ANS: D PTS: 1 DIF: Grade 9 REF: 9.3
OBJ: SS1 TOP: Chord Properties KEY: chord
61. ANS: B PTS: 1 DIF: Grade 9 REF: 9.5
OBJ: SS1 TOP: Tangent Properties KEY: tangent
62. ANS: C PTS: 1 DIF: Grade 9 REF: 9.5
OBJ: SS1 TOP: Tangent Properties KEY: tangent

Math 9 Final - Practice Test [Answer Strip] **ID: A**

__A__ 1.

__B__ 2.

__D__ 3.

__A__ 4.

__A__ 5.

__B__ 6.

__A__ 7.

__B__ 8.

__A__ 9.

__C__ 10.

__B__ 11.

__C__ 12.

__D__ 13.

__B__ 14.

__C__ 15.

__B__ 16.

__D__ 17.

__C__ 18.

__A__ 19.

__D__ 20.

__C__ 21.

__B__ 22.

__C__ 23.

__C__ 24.

__C__ 25.

__B__ 27.

__A__ 28.

__C__ 29.

__B__ 30.

__A__ 31.

__D__ 32.

__A__ 33.

__D__ 34.

__D__ 35.

__C__ 36.

__C__ 37.

__A__ 38.

__B__ 39.

__B__ 40.

__B__ 41.

Math 9 Final - Practice Test [Answer Strip] **ID: A**

_____D_____42.

_____B_____43.

_____A_____44.

_____C_____45.

_____D_____46.

_____C_____47.

_____A_____48.

_____C_____49.

_____B_____50.

_____C_____51.

_____C_____52.

_____C_____53.

_____D_____54.

_____A_____55.

_____C_____56.

_____A_____57.

_____C_____58.

_____A_____59.

_____D_____60.

_____B_____61.

_____C_____62.