OAK HALL SCHOOL

2024-2025

Suggested Review Exercises
for students entering

Honors Geometry

A message from the Math Department

Mathematics is a subject that is cumulative in nature as it constructs new knowledge from foundational prior knowledge. Therefore, as it is imperative to our students' success, we require them to have mastered certain skills and concepts before entering a new math course.

Each course in the math department has provided suggested exercises for incoming students as a resource for them to review the required prerequisites that are critical to their success in the course. While we will not be requiring students to complete these exercises as a formal assignment to be turned in, we have the highest expectations of our students as self-aware, proactive learners. Each student is responsible for gauging which prerequisites they need to reinforce and how much studying they need to do for them to start the new school year feeling confident, prepared, and accomplished.

We recommend that our students begin this process mid to late summer in order for everything to be fresh in their minds but also to give them time to recover from the school year they just completed. Rest is not an indulgence; it is a human necessity. We hope everyone has a safe, fun, and restful summer and we look forward to having another great school year when we come back in August!

Name: _____ _____ **Date:** _____

Geometry Summer Packet

Complete each statement.

1. 190,000 cm^3 = ■ m^3 (1 m = 100 cm)

2. 0.77 m = ■ cm (1 m = 100 cm)

3. 4087 mL = ■ L (1 L = 100 mL)

4. 9 ft = ■ in. (1ft = 12 in.)

5. 468 $in.^2$ = ■ ft^2 (1 ft = 12 in.)

6. 7 ft^3 = ■ $in.^3$ (1 ft = 12 in.)

7. 0.44 km^2 = ■ m^2 (1 km = 1000 m)

Simplify.

8. $(-7.8)^2$

9. $\left(\frac{10}{13}\right)^2$

10. 10^2

11. $(-18)^2$

12. $\sqrt{\frac{169}{196}}$

13. $\sqrt{81}$

Name: _____

Solve. Round to the nearest tenth if necessary.

14. $11^2 + c^2 = 15^2$

15. $x^2 = 41$

16. $\sqrt{79}$

Evaluate the expression for $x = 2$ and $y = -4$.

17. $(-x - y)^2$

18. $5xy$

19. $\dfrac{x^2 - y}{x + 5y - 1}$

20. $-3x + 2y$

21. Evaluate the expression for $x = -2$
$2x^2 - 3$

Simplify the expression.

22. $(3m + 8)^2$

23. $-4x - 6x - 1 - 5$

24. $(2x + 2)(4x + 3)$

Express each ratio in simplest form.

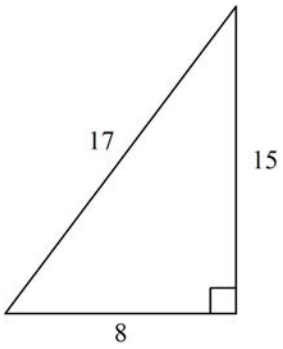
25. $\dfrac{4w^2}{22w}$

26. $\dfrac{a + b}{4a + 4b}$

27. $60x^2 : 15x$

Name: _____

28. shorter leg : hypotenuse



Drawing not to scale

Simplify each expression.

29. $-3|9 + 3|$

30. $|-20 - 11|$

31. $|6| - |-11|$

Solve the equation.

32. $|x| + 1 = 9$

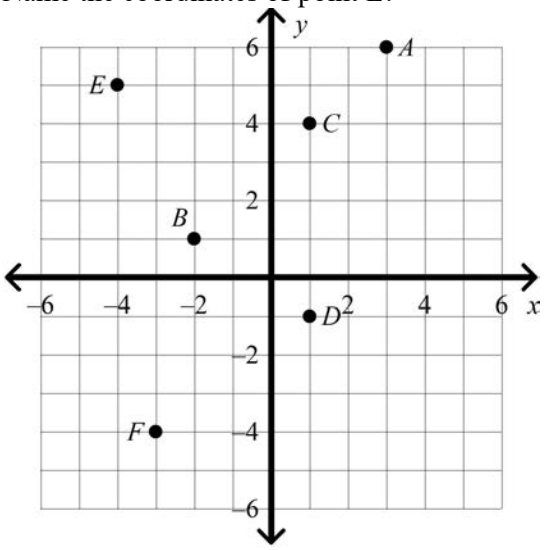
33. $|x| - 10 = 17$

34. $|x| + 15 = 21$

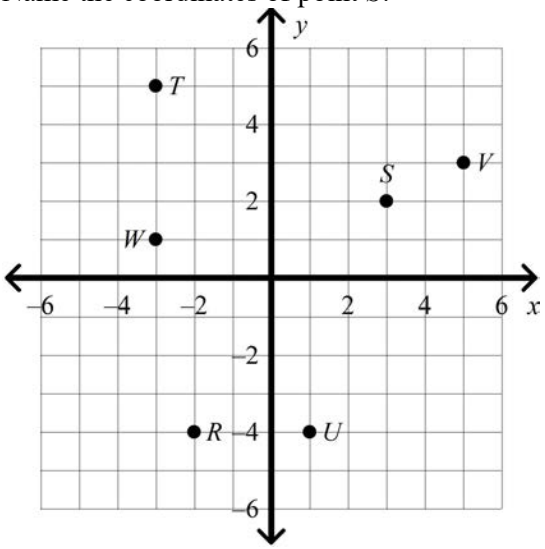
35. $|x| = 41$

Name: _____

36. Name the coordinates of point E.



37. Name the coordinates of point S.



38. Graph point $A(3, 7)$.

39. Graph point $A(-7, -1)$.

40. In which quadrant or on which axis would you find the point $A(9, 1)$?

41. In which quadrant or on which axis would you find the point $B(10, -4)$?

42. In which quadrant or on which axis would you find the point $B(0, -8)$?

Name: _____

Solve the equation.

43. $6(y + 6) = 90$

44. $\frac{2p}{3} - 15 = -19$

45. $56 - 13 + 5g = 78$

46. $16m = 272$

47. $-2(q + 8) = -10q$

48. $7x - 7 = 3x + 9$

49. $t - 115 = 10$

50. Twice a number plus 18 is –16. What is the number?

51. The area of a rectangle is $3200\ \text{cm}^2$. If the length is twice as long as the width, what is the length of the rectangle?

Write the percent as a decimal.

52. 73.1%

53. 29%

54. 55%

Simplify.

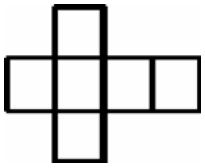
55. 32% of 214

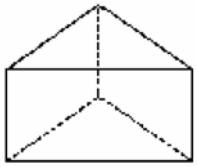
56. What is 24% of 76? Estimate the answer.

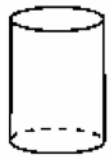
57. What is 67% of 20? Estimate the answer.

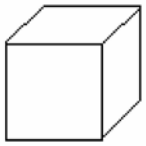
Name: _____

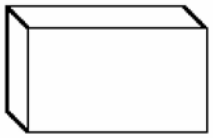
____ 58. Which three-dimensional figure matches this net?



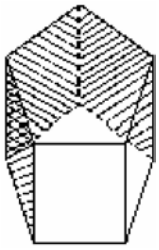
A. 

C. 

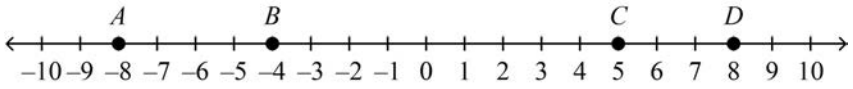
B. 

D. 

59. What is a net for the figure below?



60. What is the length of $\overline{AC}$?



61. If $EF = 6$ and $EG = 21$, find the value of FG. The drawing is not to scale.

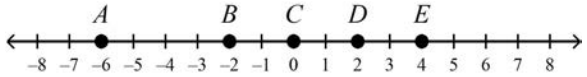
62. If $EF = 4x + 15$, $FG = 39$, and $EG = 110$, find the value of x. The drawing is not to scale.

63. If $EF = 2x - 12$, $FG = 3x - 15$, and $EG = 23$, find the values of x, EF, and FG. The drawing is not to scale.

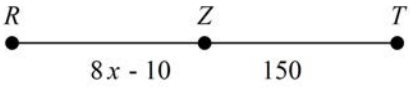
Name: _____

64. If $EG = 25$, and point F is 2/5 of the way between E and G, find the value FG. The drawing is not to scale.

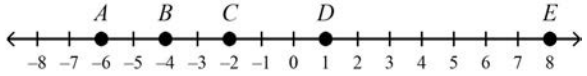
65. What segment is congruent to $\overline{AC}$?



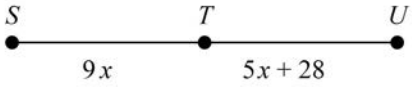
66. If Z is the midpoint of $\overline{RT}$, what are x, RZ, and RT?



67. Which point is the midpoint of $\overline{AE}$? (midpoint = middle point)



68. If T is the midpoint of $\overline{SU}$, what are ST, TU, and SU? (midpoint = middle point)



____ 69. Which angle is a right angle?

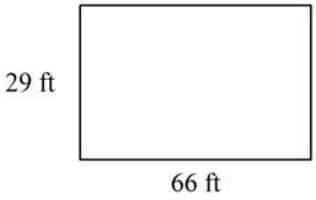
A.

C.

B.

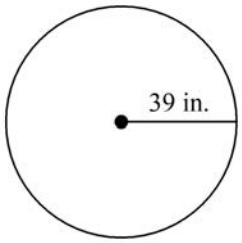
D.

70. Find the perimeter of the rectangle. The drawing is not to scale.

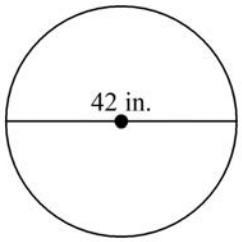


Name: _____

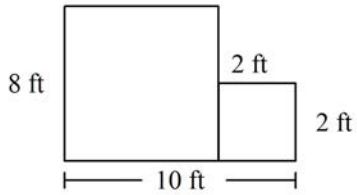
71. Find the circumference of the circle in terms of π.



72. Find the area of the circle in terms of π .



73. The figure is formed from rectangles. Find the total area. The diagram is not to scale.



Geometry Summer Packet
Answer Section

1. ANS:
0.19

PTS: 1 DIF: L1 REF: 0-3 Measurement Conversions
OBJ: Measurement Conversions TOP: Skills Handbook: Measurement Conversions
KEY: metric units | conversion | measurement

2. ANS:
77

PTS: 1 DIF: L1 REF: 0-3 Measurement Conversions
OBJ: Measurement Conversions TOP: Skills Handbook: Measurement Conversions
KEY: metric units | length | conversion | measurement

3. ANS:
4.087

PTS: 1 DIF: L1 REF: 0-3 Measurement Conversions
OBJ: Measurement Conversions TOP: Skills Handbook: Measurement Conversions
KEY: metric units | capacity | conversion | measurement

4. ANS:
108

PTS: 1 DIF: L1 REF: 0-3 Measurement Conversions
OBJ: Measurement Conversions TOP: Skills Handbook: Measurement Conversions
KEY: measurement | conversion | length | customary units

5. ANS:
$3\frac{1}{4}$

PTS: 1 DIF: L2 REF: 0-3 Measurement Conversions
OBJ: Measurement Conversions TOP: Skills Handbook: Measurement Conversions
KEY: measurement | conversion | customary units

6. ANS:
12,096

PTS: 1 DIF: L2 REF: 0-3 Measurement Conversions
OBJ: Measurement Conversions TOP: Skills Handbook: Measurement Conversions
KEY: measurement | conversion | customary units

7. ANS:
440,000

PTS: 1 DIF: L2 REF: 0-3 Measurement Conversions
OBJ: Measurement Conversions TOP: Skills Handbook: Measurement Conversions
KEY: metric units | conversion | measurement

8. ANS:
60.84

PTS: 1 DIF: L2 REF: 0-6 Squaring Numbers and Finding Square Roots
OBJ: Squaring Numbers and Finding Square Roots
TOP: Skills Handbook: Squaring Numbers and Finding Square Roots
KEY: squaring numbers | negative numbers | real numbers

9. ANS:
$\frac{100}{169}$

PTS: 1 DIF: L2 REF: 0-6 Squaring Numbers and Finding Square Roots
OBJ: Squaring Numbers and Finding Square Roots
TOP: Skills Handbook: Squaring Numbers and Finding Square Roots
KEY: squaring numbers | rational numbers

10. ANS:
100

PTS: 1 DIF: L1 REF: 0-6 Squaring Numbers and Finding Square Roots
OBJ: Squaring Numbers and Finding Square Roots
TOP: Skills Handbook: Squaring Numbers and Finding Square Roots
KEY: squaring numbers | positive numbers

11. ANS:
324

PTS: 1 DIF: L2 REF: 0-6 Squaring Numbers and Finding Square Roots
OBJ: Squaring Numbers and Finding Square Roots
TOP: Skills Handbook: Squaring Numbers and Finding Square Roots
KEY: squaring numbers | negative numbers

12. ANS:
$\frac{13}{14}$

PTS: 1 DIF: L2 REF: 0-6 Squaring Numbers and Finding Square Roots
OBJ: Squaring Numbers and Finding Square Roots
TOP: Skills Handbook: Squaring Numbers and Finding Square Roots
KEY: square root | rational numbers

13. ANS:
9

PTS: 1 DIF: L1 REF: 0-6 Squaring Numbers and Finding Square Roots
OBJ: Squaring Numbers and Finding Square Roots
TOP: Skills Handbook: Squaring Numbers and Finding Square Roots
KEY: square root | rational numbers

14. ANS:
±10.2

PTS: 1 DIF: L2 REF: 0-6 Squaring Numbers and Finding Square Roots
OBJ: Squaring Numbers and Finding Square Roots
TOP: Skills Handbook: Squaring Numbers and Finding Square Roots
KEY: square root | equation

15. ANS:
±6.4

PTS: 1 DIF: L2 REF: 0-6 Squaring Numbers and Finding Square Roots
OBJ: Squaring Numbers and Finding Square Roots
TOP: Skills Handbook: Squaring Numbers and Finding Square Roots
KEY: square root | equation

16. ANS:
8.9

PTS: 1 DIF: L2 REF: 0-6 Squaring Numbers and Finding Square Roots
OBJ: Squaring Numbers and Finding Square Roots
TOP: Skills Handbook: Squaring Numbers and Finding Square Roots
KEY: square root

17. ANS:
4

PTS: 1 DIF: L2 REF: 0-7 Evaluating and Simplifying Expressions
OBJ: Evaluating and Simplifying Expressions
TOP: Skills Handbook: Evaluating and Simplifying Expressions
KEY: evaluating expressions

18. ANS:
–40

PTS: 1 DIF: L1 REF: 0-7 Evaluating and Simplifying Expressions
OBJ: Evaluating and Simplifying Expressions
TOP: Skills Handbook: Evaluating and Simplifying Expressions
KEY: evaluating expressions

19. ANS:
$-\frac{8}{19}$

PTS: 1 DIF: L3 REF: 0-7 Evaluating and Simplifying Expressions
OBJ: Evaluating and Simplifying Expressions
TOP: Skills Handbook: Evaluating and Simplifying Expressions
KEY: evaluating expressions

20. ANS:
–14

PTS: 1 DIF: L2 REF: 0-7 Evaluating and Simplifying Expressions
OBJ: Evaluating and Simplifying Expressions
TOP: Skills Handbook: Evaluating and Simplifying Expressions
KEY: evaluating expressions

21. ANS:
5

PTS: 1 DIF: L2 REF: 0-7 Evaluating and Simplifying Expressions
OBJ: Evaluating and Simplifying Expressions
TOP: Skills Handbook: Evaluating and Simplifying Expressions
KEY: evaluating expressions

22. ANS:
$9m^2 + 48m + 64$

PTS: 1 DIF: L2 REF: 0-7 Evaluating and Simplifying Expressions
OBJ: Evaluating and Simplifying Expressions
TOP: Skills Handbook: Evaluating and Simplifying Expressions
KEY: polynomial | square of a binomial | expression | simplify

23. ANS:
$-10x - 6$

PTS: 1 DIF: L1 REF: 0-7 Evaluating and Simplifying Expressions
OBJ: Evaluating and Simplifying Expressions
TOP: Skills Handbook: Evaluating and Simplifying Expressions
KEY: monomial | polynomial | expression | simplify

24. ANS:
$8x^2 + 14x + 6$

PTS: 1 DIF: L2 REF: 0-7 Evaluating and Simplifying Expressions
OBJ: Evaluating and Simplifying Expressions
TOP: Skills Handbook: Evaluating and Simplifying Expressions
KEY: polynomial | expression | simplify

25. ANS:
$\frac{2w}{11}$

PTS: 1 DIF: L1 REF: 0-8 Simplifying Ratios
OBJ: Simplifying Ratios TOP: Skills Handbook: Simplifying Ratios
KEY: ratios | simplify

26. ANS:
$\frac{1}{4}$

PTS: 1 DIF: L2 REF: 0-8 Simplifying Ratios
OBJ: Simplifying Ratios TOP: Skills Handbook: Simplifying Ratios
KEY: ratios | simplify

27. ANS:
$4x : 1$

PTS: 1 DIF: L2 REF: 0-8 Simplifying Ratios
OBJ: Simplifying Ratios TOP: Skills Handbook: Simplifying Ratios
KEY: ratios | simplify

28. ANS:
$\frac{8}{17}$

PTS: 1 DIF: L3 REF: 0-8 Simplifying Ratios
OBJ: Simplifying Ratios TOP: Skills Handbook: Simplifying Ratios
KEY: ratios | simplify

29. ANS:
–36

PTS: 1 DIF: L2 REF: 0-9 Absolute Value
OBJ: Absolute Value TOP: Skills Handbook: Absolute Value
KEY: absolute value

30. ANS:
31

PTS: 1 DIF: L1 REF: 0-9 Absolute Value
OBJ: Absolute Value TOP: Skills Handbook: Absolute Value
KEY: absolute value

31. ANS:
–5

PTS: 1 DIF: L1 REF: 0-9 Absolute Value
OBJ: Absolute Value TOP: Skills Handbook: Absolute Value
KEY: absolute value

32. ANS:
±8

PTS: 1 DIF: L3 REF: 0-9 Absolute Value
OBJ: Absolute Value TOP: Skills Handbook: Absolute Value
KEY: absolute value | absolute value equation

33. ANS:
±27

PTS: 1 DIF: L3 REF: 0-9 Absolute Value
OBJ: Absolute Value TOP: Skills Handbook: Absolute Value
KEY: absolute value | absolute value equation

34. ANS:
±6

PTS: 1 DIF: L3 REF: 0-9 Absolute Value
OBJ: Absolute Value TOP: Skills Handbook: Absolute Value
KEY: absolute value | absolute value equation

35. ANS:
±41

PTS: 1 DIF: L1 REF: 0-9 Absolute Value
OBJ: Absolute Value TOP: Skills Handbook: Absolute Value
KEY: absolute value | absolute value equation

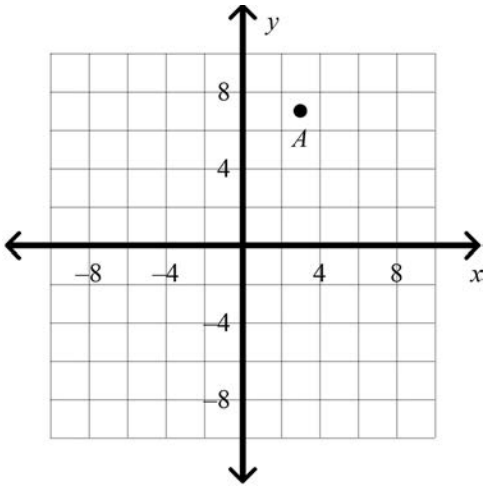
36. ANS:
(–4, 5)

PTS: 1 DIF: L1 REF: 0-10 The Coordinate Plane
OBJ: The Coordinate Plane TOP: Skills Handbook: The Coordinate Plane
KEY: ordered pair | coordinate plane

37. ANS:
(3, 2)

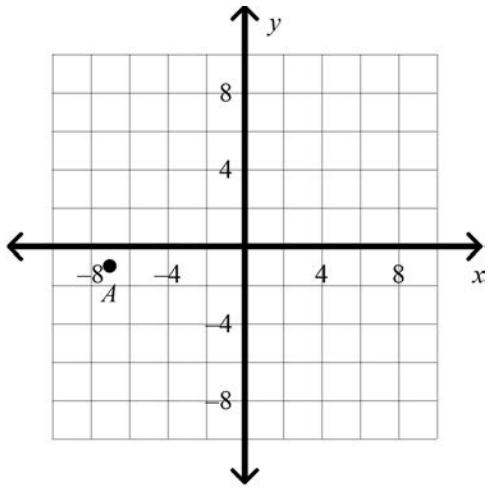
PTS: 1 DIF: L1 REF: 0-10 The Coordinate Plane
OBJ: The Coordinate Plane TOP: Skills Handbook: The Coordinate Plane
KEY: ordered pair | coordinate plane

38. ANS:



PTS: 1 DIF: L1 REF: 0-10 The Coordinate Plane
OBJ: The Coordinate Plane TOP: Skills Handbook: The Coordinate Plane
KEY: ordered pair | coordinate plane

39. ANS:



PTS: 1 DIF: L1 REF: 0-10 The Coordinate Plane
OBJ: The Coordinate Plane TOP: Skills Handbook: The Coordinate Plane
KEY: ordered pair | coordinate plane

40. ANS:
Quadrant I

PTS: 1 DIF: L1 REF: 0-10 The Coordinate Plane
OBJ: The Coordinate Plane TOP: Skills Handbook: The Coordinate Plane
KEY: ordered pair | coordinate plane

41. ANS:
Quadrant IV

PTS: 1 DIF: L1 REF: 0-10 The Coordinate Plane
OBJ: The Coordinate Plane TOP: Skills Handbook: The Coordinate Plane
KEY: ordered pair | coordinate plane

42. ANS:
y-axis

PTS: 1 DIF: L1 REF: 0-10 The Coordinate Plane
OBJ: The Coordinate Plane TOP: Skills Handbook: The Coordinate Plane
KEY: ordered pair | coordinate plane

43. ANS:
9

PTS: 1 DIF: L2 REF: 0-11 Solving and Writing Linear Equations
OBJ: Solving and Writing Linear Equations
TOP: Skills Handbook: Solving and Writing Linear Equations KEY: solving linear equations

44. ANS:
–6

PTS: 1 DIF: L2 REF: 0-11 Solving and Writing Linear Equations
OBJ: Solving and Writing Linear Equations
TOP: Skills Handbook: Solving and Writing Linear Equations KEY: solving linear equations

45. ANS:
7

PTS: 1 DIF: L2 REF: 0-11 Solving and Writing Linear Equations
OBJ: Solving and Writing Linear Equations
TOP: Skills Handbook: Solving and Writing Linear Equations KEY: solving linear equations

46. ANS:
17

PTS: 1 DIF: L1 REF: 0-11 Solving and Writing Linear Equations
OBJ: Solving and Writing Linear Equations
TOP: Skills Handbook: Solving and Writing Linear Equations KEY: solving linear equations

47. ANS:
2

PTS: 1 DIF: L3 REF: 0-11 Solving and Writing Linear Equations
OBJ: Solving and Writing Linear Equations
TOP: Skills Handbook: Solving and Writing Linear Equations KEY: solving linear equations

48. ANS:
4

PTS: 1 DIF: L3 REF: 0-11 Solving and Writing Linear Equations
OBJ: Solving and Writing Linear Equations
TOP: Skills Handbook: Solving and Writing Linear Equations KEY: solving linear equations

49. ANS:
125

PTS: 1 DIF: L1 REF: 0-11 Solving and Writing Linear Equations
OBJ: Solving and Writing Linear Equations
TOP: Skills Handbook: Solving and Writing Linear Equations KEY: solving linear equations

50. ANS:
–17

PTS: 1 DIF: L1 REF: 0-11 Solving and Writing Linear Equations
OBJ: Solving and Writing Linear Equations
TOP: Skills Handbook: Solving and Writing Linear Equations
KEY: solving linear equations | writing linear equations | word problem

51. ANS:
80

PTS: 1 DIF: L3 REF: 0-11 Solving and Writing Linear Equations
OBJ: Solving and Writing Linear Equations
TOP: Skills Handbook: Solving and Writing Linear Equations
KEY: solving linear equations | writing linear equations | word problem

52. ANS:
0.731

PTS: 1 DIF: L1 REF: 0-12 Percents
OBJ: Percents TOP: Skills Handbook: Percents KEY: percents | decimals

53. ANS:
0.29

PTS: 1 DIF: L1 REF: 0-12 Percents
OBJ: Percents TOP: Skills Handbook: Percents KEY: percents | decimals

54. ANS:
0.55

PTS: 1 DIF: L1 REF: 0-12 Percents
OBJ: Percents TOP: Skills Handbook: Percents KEY: percents | decimals

55. ANS:
68.48

PTS: 1 DIF: L2 REF: 0-12 Percents
OBJ: Percents TOP: Skills Handbook: Percents KEY: percents

56. ANS:
about 19

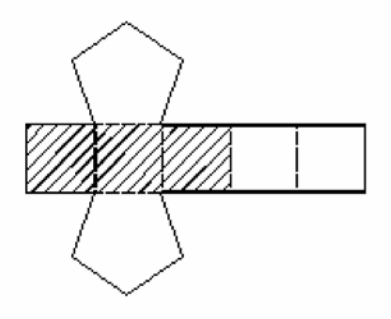
PTS: 1 DIF: L1 REF: 0-12 Percents
OBJ: Percents TOP: Skills Handbook: Percents KEY: percents | estimation

57. ANS:
about 13

PTS: 1 DIF: L2 REF: 0-12 Percents
OBJ: Percents TOP: Skills Handbook: Percents KEY: percents | estimation

58. ANS: B PTS: 1 DIF: L2
REF: 1-1 Nets and Drawings for Visualizing Geometry
OBJ: 1-1.1 To make nets and drawings of three-dimensional figures
NAT: CC G.CO.1| G.1.d| G.1.e| G.3.b TOP: 1-1 Problem 1 Identifying a Solid From a Net
KEY: net

59. ANS:



PTS: 1 DIF: L3 REF: 1-1 Nets and Drawings for Visualizing Geometry
OBJ: 1-1.1 To make nets and drawings of three-dimensional figures
NAT: CC G.CO.1| G.1.d| G.1.e| G.3.b TOP: 1-1 Problem 2 Drawing a Net From a Solid
KEY: net

60. ANS:
13

PTS: 1 DIF: L2 REF: 1-3 Measuring Segments
OBJ: 1-3.1 To find and compare lengths of segments NAT: CC G.CO.1| CC G.GPE.6| G.3.b
TOP: 1-3 Problem 1 Measuring Segment Lengths KEY: coordinate | distance

61. ANS:
15

PTS: 1 DIF: L2 REF: 1-3 Measuring Segments
OBJ: 1-3.1 To find and compare lengths of segments NAT: CC G.CO.1| CC G.GPE.6| G.3.b
TOP: 1-3 Problem 2 Using the Segment Addition Postulate KEY: coordinate | distance

62. ANS:
$x = 14$

PTS: 1 DIF: L3 REF: 1-3 Measuring Segments
OBJ: 1-3.1 To find and compare lengths of segments NAT: CC G.CO.1| CC G.GPE.6| G.3.b
TOP: 1-3 Problem 2 Using the Segment Addition Postulate KEY: coordinate | distance

63. ANS:
$x = 10$, $EF = 8$, $FG = 15$

PTS: 1 DIF: L4 REF: 1-3 Measuring Segments
OBJ: 1-3.1 To find and compare lengths of segments NAT: CC G.CO.1| CC G.GPE.6| G.3.b
TOP: 1-3 Problem 2 Using the Segment Addition Postulate KEY: coordinate | distance

64. ANS:
15

PTS: 1 DIF: L4 REF: 1-3 Measuring Segments
OBJ: 1-3.1 To find and compare lengths of segments NAT: CC G.CO.1| CC G.GPE.6| G.3.b
TOP: 1-3 Problem 2 Using the Segment Addition Postulate
KEY: coordinate | distance | partition segment in a given ratio

65. ANS:
$\overline{BE}$

PTS: 1 DIF: L3 REF: 1-3 Measuring Segments
OBJ: 1-3.1 To find and compare lengths of segments NAT: CC G.CO.1| CC G.GPE.6| G.3.b
TOP: 1-3 Problem 3 Comparing Segment Lengths KEY: congruent segments

66. ANS:
$x = 20$, $RZ = 150$, and $RT = 300$

PTS: 1 DIF: L3 REF: 1-3 Measuring Segments
OBJ: 1-3.1 To find and compare lengths of segments NAT: CC G.CO.1| CC G.GPE.6| G.3.b
TOP: 1-3 Problem 4 Using the Midpoint KEY: midpoint

67. ANS:
D

PTS: 1 DIF: L2 REF: 1-3 Measuring Segments
OBJ: 1-3.1 To find and compare lengths of segments NAT: CC G.CO.1| CC G.GPE.6| G.3.b
TOP: 1-3 Problem 4 Using the Midpoint KEY: midpoint

68. ANS:
$ST = 63$, $TU = 63$, and $SU = 126$

PTS: 1 DIF: L4 REF: 1-3 Measuring Segments
OBJ: 1-3.1 To find and compare lengths of segments NAT: CC G.CO.1| CC G.GPE.6| G.3.b
TOP: 1-3 Problem 4 Using the Midpoint KEY: midpoint

69. ANS: C PTS: 1 DIF: L2 REF: 1-4 Measuring Angles
OBJ: 1-4.1 To find and compare the measures of angles NAT: CC G.CO.1| M.1.d| G.3.b
TOP: 1-4 Problem 2 Measuring and Classifying Angles
KEY: obtuse angle | straight angle | right angle | acute angle

70. ANS:
190 feet

PTS: 1 DIF: L2 REF: 1-8 Perimeter, Circumference, and Area
OBJ: 1-8.1 To find the perimeter or circumference of basic shapes
NAT: CC N.Q.1| M.1.c| M.1.f| M.2.a| G.3.b| A.4.e
TOP: 1-8 Problem 1 Finding the Perimeter of a Rectangle KEY: rectangle | perimeter

71. ANS:
78π in.

PTS: 1 DIF: L3 REF: 1-8 Perimeter, Circumference, and Area
OBJ: 1-8.1 To find the perimeter or circumference of basic shapes
NAT: CC N.Q.1| M.1.c| M.1.f| M.2.a| G.3.b| A.4.e
TOP: 1-8 Problem 2 Finding Circumference KEY: circle | circumference

72. ANS:
441π in.^{2}

PTS: 1 DIF: L3 REF: 1-8 Perimeter, Circumference, and Area
OBJ: 1-8.2 To find the area of basic shapes
NAT: CC N.Q.1| M.1.c| M.1.f| M.2.a| G.3.b| A.4.e
TOP: 1-8 Problem 5 Finding Area of a Circle KEY: area | circle

73. ANS:
68 ft^2

PTS: 1 DIF: L2 REF: 1-8 Perimeter, Circumference, and Area
OBJ: 1-8.2 To find the area of basic shapes
NAT: CC N.Q.1| M.1.c| M.1.f| M.2.a| G.3.b| A.4.e
TOP: 1-8 Problem 6 Finding Area of an Irregular Shape KEY: area | rectangle