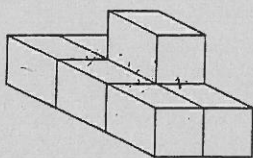


Review Quizzes

Multiple Choice

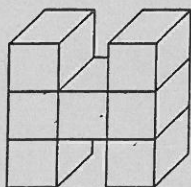
Identify the choice that best completes the statement or answers the question.

- _____ 1. List all the whole numbers between 63 and 101 that are perfect squares.
a. 64, 81, 96 c. 64, 81, 100
b. 64, 81 d. 64, 72, 81, 100
- _____ 2. Which decimal has a square root between 14 and 15?
i) 240.3
ii) 169
iii) 14.5
iv) 204.5
a. ii b. iii c. i d. iv
- _____ 3. Which fraction has a square root between 3 and 4?
i) $\frac{52}{3}$
ii) $\frac{61}{3}$
iii) $\frac{37}{4}$
iv) $\frac{79}{4}$
a. iv b. ii c. iii d. i
- _____ 4. This object is made from 7 centimetre cubes. Determine its surface area.



- a. 20 cm² b. 28 cm² c. 42 cm² d. 26 cm²

- _____ 5. This object is made from 7 centimetre cubes. Determine its surface area.

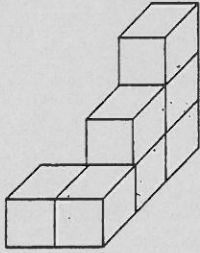


- a. 30 cm² b. 42 cm² c. 26 cm² d. 22 cm²

Name: _____

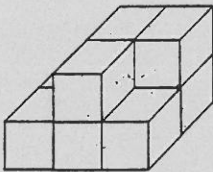
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6. This object is made from 7 centimetre cubes. Determine its surface area.



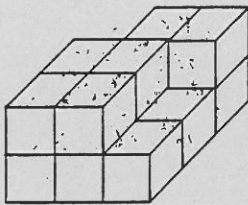
- a. 29 cm^2 b. 28 cm^2 c. 24 cm^2 d. 26 cm^2

7. This object is made from 9 centimetre cubes. Determine its surface area.



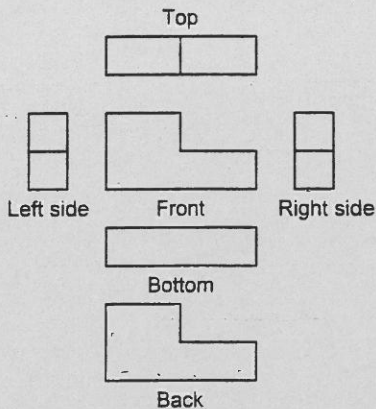
- a. 30 cm^2 b. 28 cm^2 c. 34 cm^2 d. 54 cm^2

8. This object is made from 14 centimetre cubes. Determine its surface area.



- a. 34 cm^2 b. 42 cm^2 c. 40 cm^2 d. 70 cm^2

9. Here are the 6 views of an object made using centimetre cubes. Determine its surface area.

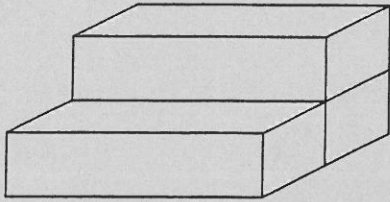


- a. 14 cm^2 b. 12 cm^2 c. 13 cm^2 d. 24 cm^2

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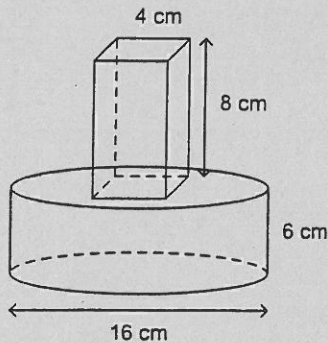
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10. This object is made from 3 identical right rectangular prisms. Each prism is 55 cm long and has square ends of side length 25 cm. What is the surface area of the object?



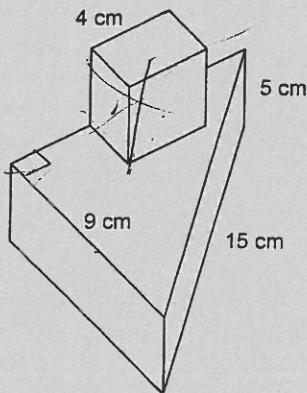
- a. 20 250 cm² b. 12 875 cm² c. 12 000 cm² d. 14 750 cm²

11. This object is composed of a rectangular prism on top of a cylinder. The rectangular prism has height 8 cm and square ends of side length 4 cm. The cylinder has diameter 16 cm and height 6 cm. Determine the surface area of the object, to the nearest square centimetre.



- a. 631 cm² b. 816 cm² c. 832 cm² d. 848 cm²

12. A 4-cm cube is attached to the top of a right triangular prism as shown. Determine the surface area of the composite object, to the nearest square centimetre.



- a. 298 cm² b. 352 cm² c. 336 cm² d. 368 cm²

13. Write the base of $-(-5)^3$.

- a. -5 b. 5 c. -5×3 d. 3

Name: _____

ID: A .

- _____ 14. Which answer is negative?
i) $(-6)^6$
ii) $-(6)^6$
iii) $-(-6)^6$
a. i and ii b. ii and iii c. i only d. i and iii
- _____ 15. Write one hundred million as a power of 10.
a. 10^{12} b. 10^8 c. 10^{11} d. 10^7
- _____ 16. Evaluate: -8^0
a. 8 b. 0 c. 1 d. -1
- _____ 17. Evaluate: $(-13)^0$
a. 0 b. 1 c. -13 d. -1
- _____ 18. Write $(5 \times 10^4) + (8 \times 10^1) + (9 \times 10^2) + (6 \times 10^0)$ in standard form.
a. 50 980 b. 50 986 c. 50 981 d. 5986
- _____ 19. Evaluate: $(3+4)^2 - (2-4)^3$
a. -31 b. 57 c. 20 d. 41
- _____ 20. Evaluate: $10^2 \times 10^5 + 10^5$
a. 10 100 000 c. 120
b. 1 000 000 000 000 d. 10 000 100 000
- _____ 21. Write $-(7^2)^3$ as a power.
a. 7^5 b. -7^5 c. -7^6 d. 7^6
- _____ 22. Identify the greatest rational number.
 $-\frac{9}{14}, \frac{5}{7}, -\frac{3}{4}, \frac{5}{8}$
a. $\frac{5}{7}$ b. $\frac{5}{8}$ c. $-\frac{9}{14}$ d. $\frac{3}{4}$
- _____ 23. Order the numbers from least to greatest.
 $-0.4, -0.\bar{4}, -0.\underline{44}$
a. $-0.44, -0.\bar{4}, -0.4$ c. $-0.\bar{4}, -0.44, -0.4$
b. $-0.4, -0.\bar{4}, -0.44$ d. $-0.4, -44, -0.4$
- _____ 24. Which of these numbers are between -2.4 and -3.9?
 $-4.05, -2.95, -3.95, -3.35$
a. -4.05 and -3.95 c. -3.95 and -3.35
b. -2.95 and -3.95 d. -2.95 and -3.35

Name: _____

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25. A student first borrowed \$40.25, then borrowed another \$15.75 from his father. He then paid back \$20.75. How much does he still owe his father?
a. \$3.75 b. \$45.25 c. \$24.50 d. \$35.25
26. Which expression has the least sum?
i) $9.43 + 6.05$
ii) $-9.43 + 6.05$
iii) $9.43 + (-6.05)$
iv) $-9.43 + (-6.05)$
a. ii b. i c. iii d. iv
27. Determine this difference.
 $3.7 - (-5.9)$
a. 9.6 b. -21.8 c. 8.6 d. -2.2
28. Determine this difference.
 $-\frac{5}{2} - \left(-\frac{9}{5}\right)$
a. $\frac{43}{10}$ b. $-\frac{7}{10}$ c. $\frac{7}{10}$ d. $\frac{43}{10}$
29. Which products are less than 0?
i) $(-0.6) \times (1.1)$
ii) $(-2.3) \times (-1.8)$
iii) $(-1.2) \times (-0.7)$
iv) $(1.5) \times (-1.8)$
a. ii b. i, iii, and iv c. i and iv d. ii and iii
30. Which products are less than 0?
i) $\left(\frac{-4}{5}\right) \times \left(\frac{6}{7}\right)$
ii) $\left(\frac{4}{5}\right) \times \left(\frac{6}{-7}\right)$
iii) $\left(\frac{-4}{5}\right) \times \left(\frac{6}{-7}\right)$
iv) $\left(\frac{-4}{5}\right) \times \left(\frac{6}{7}\right)$
a. All of these b. i, ii, and iv c. i and iii d. ii and iii
31. Determine this product.
 $\left(-4\frac{1}{3}\right)\left(1\frac{4}{5}\right)$
a. $7\frac{4}{5}$ b. $2\frac{8}{15}$ c. $-2\frac{8}{15}$ d. $-7\frac{4}{5}$

Name: _____

ID: A

- ___ 32. Determine this quotient.
 $(-2.8) \div 4$
a. -0.7 b. 0.7 c. -7 d. -0.07

- ___ 33. Determine this quotient.
 $\left(-\frac{5}{2}\right) \div \left(\frac{2}{7}\right)$
a. $-\frac{7}{5}$ b. $-\frac{4}{35}$ c. $-\frac{35}{4}$ d. $-\frac{5}{7}$

- ___ 34. Determine this quotient.
 $\frac{3}{14} \div \left(-\frac{15}{4}\right)$
a. $-\frac{2}{35}$ b. $-\frac{5}{56}$ c. $-\frac{45}{56}$ d. $-\frac{35}{2}$

- ___ 35. Determine this quotient.
 $1\frac{1}{2} \div \left(-2\frac{3}{5}\right)$
a. $-1\frac{11}{15}$ b. $-\frac{15}{26}$ c. $-\frac{10}{39}$ d. $-3\frac{9}{10}$

- ___ 36. Which quotients are less than -1 ?
i) $\left(-\frac{1}{6}\right) \div \frac{1}{5}$
ii) $\left(-\frac{1}{5}\right) \div \frac{1}{6}$
iii) $\frac{1}{6} \div \left(-\frac{1}{5}\right)$
iv) $\frac{1}{5} \div \left(-\frac{1}{6}\right)$
a. iii and iv b. i and iii c. i and ii d. ii and iv

- ___ 37. The pattern in this table continues. Determine the expression that relates the number of triangles to the figure number.

Figure, f	1	2	3	4	5
Number of Triangles, t	2	4	6	8	10

- a. $2f$ b. $2+t$ c. $2t$ d. $2+f$

38. Which tables of values represent a linear relation?

i)

x	1	2	3	4	5
y	4	7	12	19	28

ii)

x	0	1	2	3	4
y	0	5	10	15	20

iii)

x	1	2	3	4	5
y	5	9	13	17	21

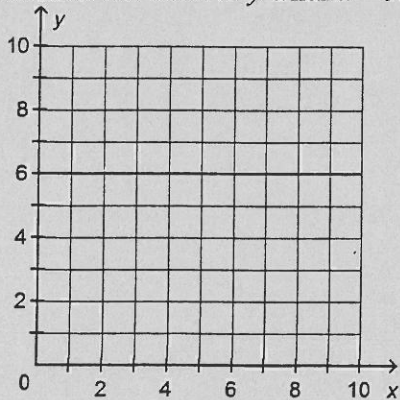
iv)

x	0	1	2	3	4
y	12	11	10	9	8

- a. ii, iii, and iv b. ii and iii c. All of these d. i and iv

39. This graph represents a linear relation.

Determine the value of y when $x = 9$.



- a. 15 b. 6 c. 9 d. 0

40. Which of the following expressions is a binomial with degree 2?

i) $x^2 - 6x + 5$

ii) $3x^2$

iii) $5x^2 - 2x$

iv) $\frac{1}{x^2} - 7$

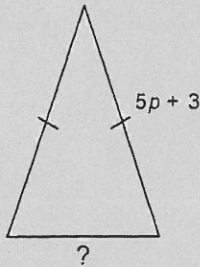
- a. i b. ii c. iv d. iii

Name: _____

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- _____ 41. Which of the following expressions are monomials with degree 2?
i) $2x^2 + 2x$
ii) $2x^2$
iii) x^2
iv) $2x$
a. ii and iii b. ii and iv c. iii and iv d. i and ii
- _____ 42. Name the coefficients of the variable in the polynomial $-4x^2 + 10x - 12$.
a. -4 b. -4, 10 c. -4, -12 d. 4, 10
- _____ 43. Simplify: $10x^2 - 8 + 3x + 5 - 6x^2 - 6x$
a. $4x^2 - 3x + 3$ c. $4x^2 + 3x + 3$
b. $4x^2 - 3x - 3$ d. $4x^4 - 3x^2 - 3$
- _____ 44. Add: $(-3x - 7) + (5 - 2x)$
a. $-5x - 2$ b. $-5x + 12$ c. $-5x + 2$ d. $5x + 2$
- _____ 45. Add: $(3x^2 - 5) + (6x^2 - 10x - 6)$
a. $9x^2 - 10x + 11$ c. $9x^2 - 15x - 6$
b. $9x^2 - 10x - 11$ d. $18x^2 - 10x - 30$
- _____ 46. Subtract: $(6x - 3) - (11x - 8)$
a. $-5x + 11$ b. $-5x + 5$ c. $-5x - 5$ d. $-5x - 11$
- _____ 47. Subtract: $(2p - 3) - (3 - 2p)$
a. $-4p + 6$ b. 0 c. $4p - 6$ d. $4p + 6$
- _____ 48. Subtract: $(5r^2 - 4) - (8r^2 + 7r + 8)$
a. $3r^2 - 7r - 12$ c. $-3r^2 + 7r + 4$
b. $-3r^2 - 7r - 12$ d. $3r^2 + 7r + 4$
- _____ 49. Subtract: $(3 - 2c - 6c^2) - (5c - 3)$
a. $-6c^2 - 7c$ c. $-6c^2 + 7c - 6$
b. $6c^2 + 7c - 6$ d. $-6c^2 - 7c + 6$

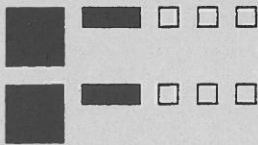
50. The perimeter of this isosceles triangle is represented by the polynomial $15p + 12$. Write a simplified polynomial for the length of the unknown side.



- a. $25p + 18$ b. $5p + 6$ c. $10p + 9$ d. $5p + 3$

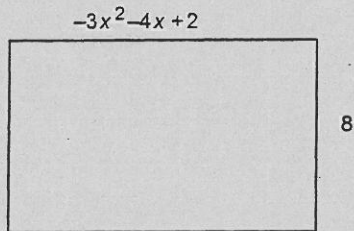
51. A large black square represents a $-x^2$ -tile, a black rectangle represents an $-x$ -tile, and a small white square represents a 1-tile.

What is the division sentence modelled by this set of algebra tiles?



- a. $\frac{-32x^2 - 32x + 16}{2}$ b. $\frac{-2x^2 - 2x + 6}{2}$ c. $\frac{-32x^2 + 32x + 48}{16}$ d. $\frac{2x^2 - 2x + 6}{2}$

52. Determine the area of this rectangle.

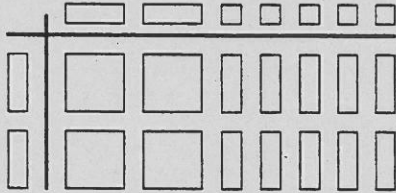


- a. $-11x^2 - 4x + 2$ c. $-11x^2 - 12x - 6$
 b. $24x^2 - 4x + 2$ d. $-24x^2 - 32x + 16$

53. A large white square represents an x^2 -tile, a white rectangle represents an x -tile, and a small white square represents a 1-tile.

Which of these multiplication sentences is modelled by the algebra tiles below?

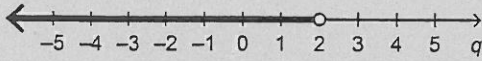
- i) $2x(2x + 5)$
 ii) $2(2x^2 + 5)$
 iii) $x(2x + 5)$
 iv) $2x(4x^2 + 10x)$



- a. iii b. ii c. i d. iv
54. Solve: $4.3 = -2x - 2.7$
 a. 3.5 b. -0.8 c. -3.5 d. 0.8
55. Solve: $4x + 2.8 = 7.2$
 a. 0.4 b. -1 c. 6.5 d. 1.1
56. Solve: $8 = 5 + \frac{x}{3}$
 a. -7 b. 19 c. 0 d. 9
57. Write an equation for this statement: A number divided by 3, plus 8, is 11.
 a. $\frac{x}{3} = 8 + 11$ b. $\frac{x}{3} + 8 = 11$ c. $\frac{3}{x} + 8 = 11$ d. $\frac{x+8}{3} = 11$
58. Solve: $8y = 2y - 12$
 a. $y = -2$ b. $y = -18$ c. $y = \frac{-10}{8}$ d. $y = 2$
59. Solve: $\frac{x}{4} + \frac{11}{2} = \frac{7}{4}$
 a. $x = -4$ b. $x = -60$ c. $x = -8$ d. $x = -15$

60. Which of these graphs represent the solution of the inequality $q - 2 \leq 0$?

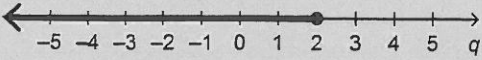
i)



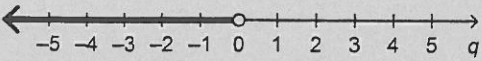
ii)



iii)



iv)



a. Graph ii

b. Graph i

c. Graph iii

d. Graph iv

61. Which of these numbers is a solution of the inequality $j + 1.2 < 3.6$?

2.4, 2.1, 1.4, 3.5

a. 2.1, 1.4

b. 1.4, 3.5

c. 2.1, 3.5

d. 2.4, 2.1, 1.4

62. Which of these numbers are solutions of the inequality $11 > 3 - 2w$?

-4, -3, -5, -2

a. -3, -2

b. -4, -3, -2

c. -3, -5

d. -4, -5

63. Solve: $7 + \frac{3}{4}x < 10$

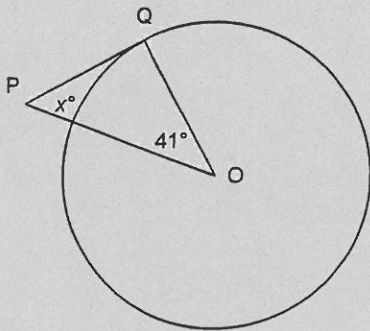
a. $x > -4$

b. $x < -4$

c. $x < 4$

d. $x > 4$

64. O is the centre of this circle and point Q is a point of tangency. Determine the value of x° .



a. 139°

b. 49°

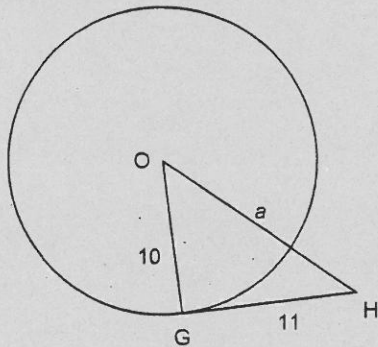
c. 41°

d. 90°

Name: _____

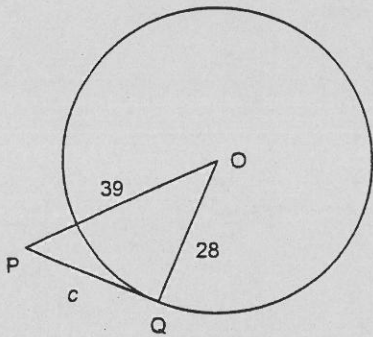
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65. O is the centre of this circle and point G is a point of tangency. Determine the value of a . If necessary, give your answer to the nearest tenth.



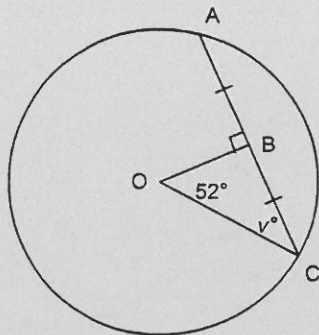
- a. 11.3 b. 22.5 c. 4.6 d. 14.9

66. O is the centre of this circle and point Q is a point of tangency. Determine the value of c . If necessary, give your answer to the nearest tenth.



- a. 48 b. 27.1 c. 11 d. 5.5

67. O is the centre of the circle. Determine the value of v° .

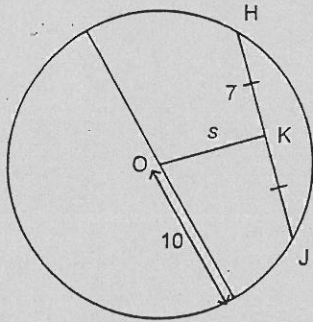


- a. 19° b. 71° c. 52° d. 38°

Name: _____

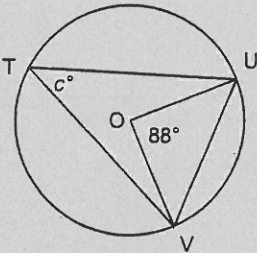
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68. O is the centre of the circle.
Determine the value of s to the nearest tenth, if necessary.



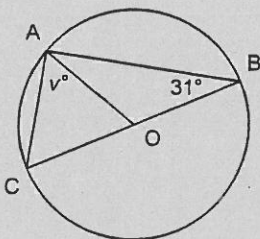
- a. 3 b. 7.1 c. 12.2 d. 51

69. O is the centre of this circle.
Determine the value of c° .



- a. 90° c. 180°
b. 44° d. 88°

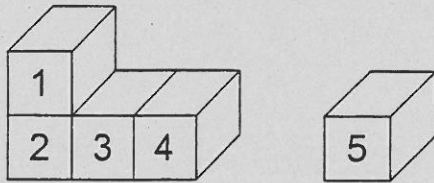
70. O is the centre of this circle.
Determine the value of v° .



- a. 118° c. 90°
b. 59° d. 31°

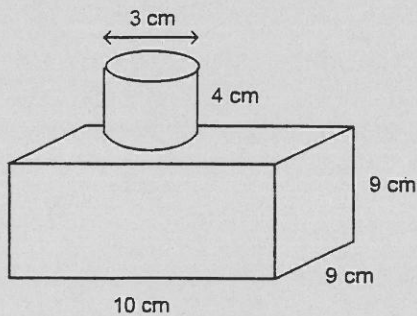
Short Answer

71. Five centimetres cubes are labelled 1 to 5 as shown.



Determine the surface area of the object formed by placing Cube 5 on top of each indicated cube.

- a) Cube 1
 b) Cube 3
 c) Cube 4
72. Determine the surface area of this composite object, to the nearest square centimetre.
 The cylinder has diameter 3 cm and height 4 cm.
 The prism has length 10 cm, width 9 cm, and height 9 cm.



73. Write these powers in order from least to greatest.

$$2^5, 4^3, 3^4, 5^2$$

74. Insert brackets to make each statement true.

a) $3^2 + 4 \times 5 - 2^2 = 13$

b) $3^2 + 4 \times 5 - 2^2 = 61$

75. Evaluate:
- $5^2 + 6^3 + 5^2 + 6^3 + 5^2 + 6^3$

76. Simplify, then evaluate.

$$\left[(-2)^4 \times (-2)^3 \right] - \left[(-3)^4 + (-3)^3 \right]$$

77. Insert
- $<$
- ,
- $>$
- , or
- $=$
- to make each expression true.

a) $2065 \text{ mm} \square 20.65 \text{ cm}$

b) $3334 \text{ m} \square 33.34 \text{ km}$

c) $1447 \text{ cm} \square 14.47 \text{ m}$

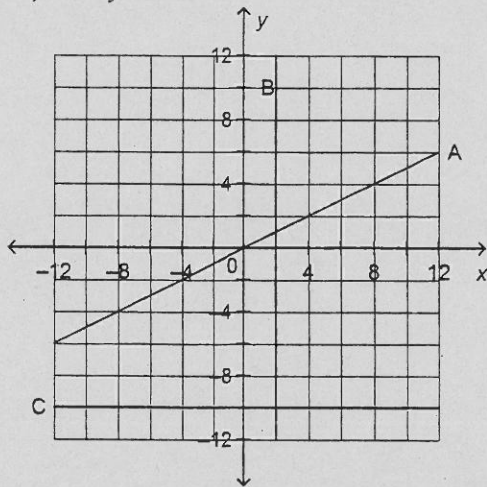
78. Estimate whether this sum is greater than or less than 0.
 $11.32 + (-11.21)$
79. Determine this difference.
 $-\frac{10}{3} - \frac{13}{9}$
80. Evaluate this expression.
 $-6.7 - 16.59 + 12.26$
81. Determine this product.
 $\left(3\frac{1}{2}\right)\left(-3\frac{2}{3}\right)$
82. Which quotients are less than 0?
- i) $-2\frac{2}{5} \div 1\frac{7}{8}$
 - ii) $2\frac{2}{5} \div (-\frac{2}{9})$
 - iii) $-1\frac{7}{8} \div (-\frac{2}{9})$
 - iv) $\frac{2}{9} \div (-2\frac{2}{5})$
83. a) Write a division expression with the same answer as $\frac{3}{4} \div \left(-\frac{2}{3}\right)$.
- b) Write two multiplication expressions with the same answer as $\frac{3}{4} \div \left(-\frac{2}{3}\right)$.
84. Evaluate.
$$\frac{0.6 \times 2.7}{0.162 \div 0.3}$$
85. The first term value, f , in a pattern is 25. As the term number increases by 1, the term value increases by 4.
- a) Create a table of values for the pattern.
 - b) Write an expression for the term value in terms of the term number, n .

Name: _____

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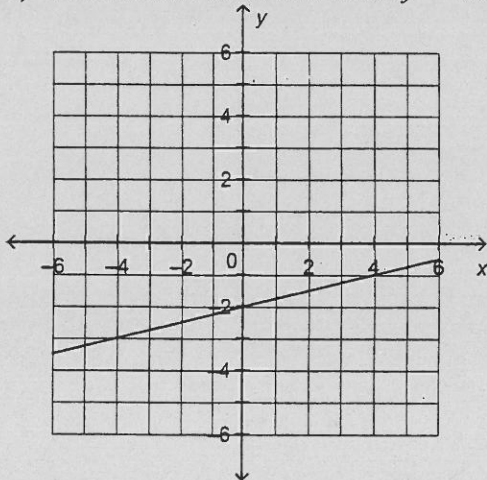
86. Match each equation with a graph on the grid below.

- i) $y = -10$
- ii) $x = 2$
- iii) $x - 2y = 0$



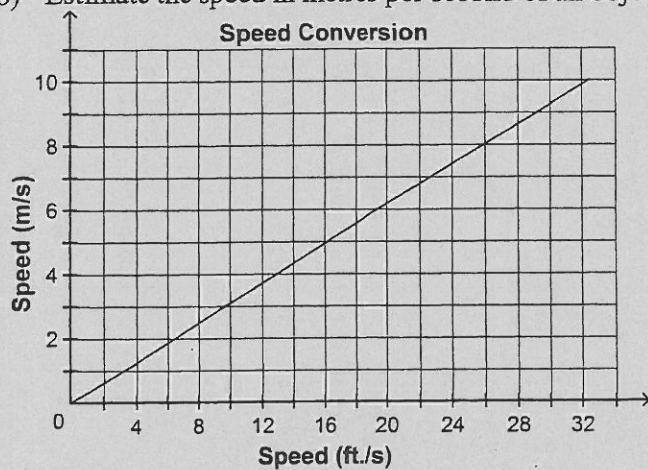
87. This graph represents a linear relation.

- a) Estimate the value of y when $x = -3$.
- b) Estimate the value of x when $y = -1.5$.



88. This graph shows how a speed in feet per second relates to a speed in metres per second.

- Estimate the speed in feet per second of an object moving at 6 m/s.
- Estimate the speed in metres per second of an object moving at 26 ft./s.



89. Which of the following expressions are polynomials?

- $x^3 - 3x + 5$
- $\frac{5}{x^2} + \frac{1}{x} + 7$
- $\sqrt{2x^2 + 6x}$
- $7 - x$

90. A large white square represents an x^2 -tile, a large black square represents a $-x^2$ -tile, a white rectangle represents an x -tile, a black rectangle represents a $-x$ -tile, a small white square represents a 1-tile, and a small black square represents a -1 -tile.

Match each polynomial with its corresponding algebra tile model.

i) $3 - 2t + 4t^2$

ii) $3a^2 - 6$

iii) $4s - 7 - 2s^2$

iv) $5m^2$

v) $-3p + 8$

vi) $-4c^2 + 6c - 2$

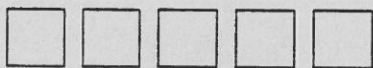
Model A



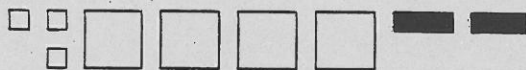
Model B



Model C



Model D



Model E



Model F



91. Group like terms.

$$5x^2 + 5 - 2x + 3 + 3x^2 - 3x$$

92. Simplify: $5x - 4 + 5 - 2x + 4x - 3 + 3x - 5$

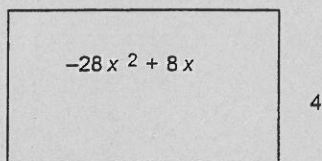
93. Simplify: $-4x^2 + 5 - 6x + 4 - 3x^2 + 4x$

94. A large white square represents an x^2 -tile, a large black square represents a $-x^2$ -tile, a white rectangle represents an x -tile, and a black rectangle represents a $-x$ -tile.

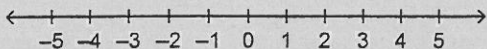
Write the polynomial sum modelled by this set of tiles.



95. The area of this rectangle is $-28x^2 + 8x$. Write the division sentence modelled by this rectangle.



96. Solve: $\frac{6x}{4} = -12$
97. Forty-four divided by a number is -11 . Write, then solve an equation to determine the number.
98. Which operation will you perform on each side of the inequality to isolate the variable?
 $-14 + z > 19$
99. Solve: $8 + 4f > 5f + 3$
100. Gary has \$227.36 in his bank account. He must maintain a minimum balance of \$550 in his account to avoid paying a monthly service fee.
 How much money can Gary deposit into his account to avoid paying this fee?
 a) Choose a variable, then write an inequality that can be used to solve this problem.
 b) Solve the problem.
101. Solve $5 + \frac{2}{3}w > 4$. Graph the solution.

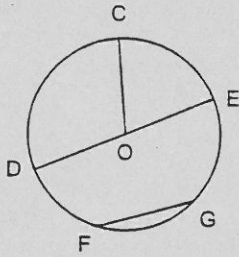


102. Solve: $2.4 + 3.7x < 4.2 + 2.5x$

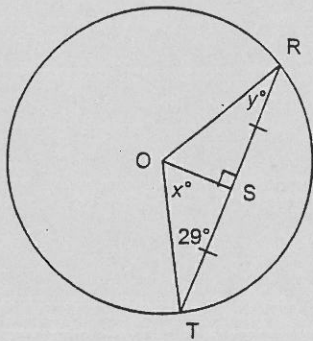
Name: _____

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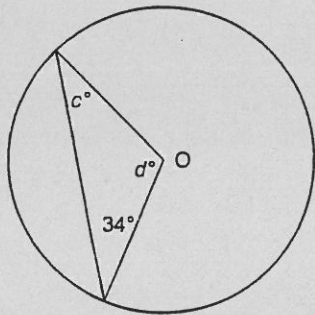
103. O is the centre of this circle.
Which line segment is a diameter?



104. Point O is the centre of this circle.
Determine the values of x° and y° .



105. Point O is the centre of this circle.
Determine the values of c° and d° .



Problem

106. This large square is made of 9 unit squares.



The numbers of squares of different sizes in the large square are:

1-by-1 square: 9

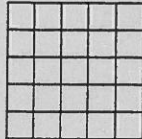
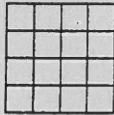
2-by-2 square: 4

3-by-3 square: 1

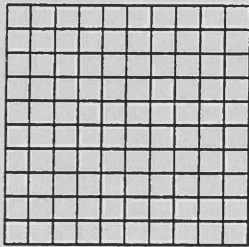
The total number of squares in the large square is: $9 + 4 + 1 = 3^2 + 2^2 + 1^2 = 14$

Write and evaluate an expression for the number of squares.

- a) a 4-unit-by-4-unit square b) a 5-unit-by-5-unit square



- c) a 10-unit-by-10-unit square



107. Write each number as a power in as many ways as possible.

a) 1024

b) 729

108. Write each whole number from 32 to 39 as a sum of two or more squares.

Number	Sum of Squares
32	
33	
34	
35	
36	
37	
38	
39	

109. Write the expression $\frac{8^3}{4^4}$ so that the powers have the same base.

Simplify, then evaluate.

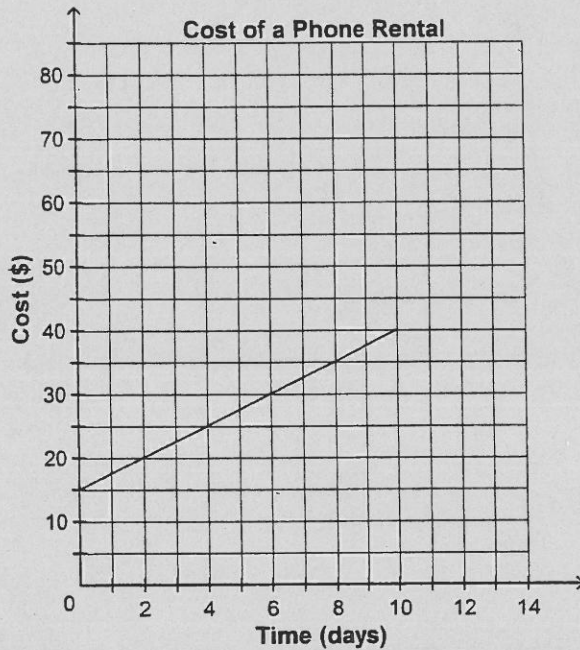
110. A resort rents out mobile phones by the day. This graph shows how the cost to rent a phone relates to the number of days the phone is rented.

a) Estimate the cost to rent a phone for:

i) 1 day

ii) 13 days

b) A customer paid \$35.00 to rent a phone. For how many days did the customer rent the phone?



111. Solve: $2(p + 5) + 3(p - 2) = 2(p + 6)$

Show your work.

112. Point O is the centre of the circle.

Determine the values of x° , y° , and z° .

