Math 8 – Practice Final Exam

____ 1. What is the area of a square with side length 10 units?

a. 200 square units
c. 20 square units
b. 40 square units
d. 100 square units

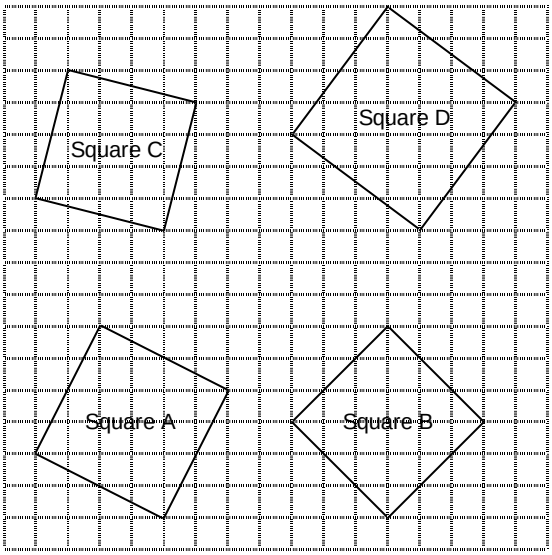
____ 2. Suzanne wants to put a fence around her square garden.
If the garden covers an area of 169 m^2, how many metres of fencing does she need?

a. 13 m
b. 52 m
c. 26 m
d. 676 m

____ 3. Find the sum of $4^2 + 9^2$.

a. 52
b. 169
c. 97
d. 72

____ 4. Which square has the greatest area?

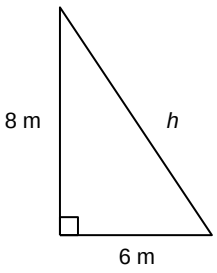


a. Square B
b. Square A
c. Square D
d. Square C

____ 5. Simplify $\sqrt{15} + \sqrt{11}$ to the nearest whole number.

a. 7
b. 8
c. 5
d. 13

____ 6. Find the length of the hypotenuse.



a. 9 m
b. 10 m
c. 11 m
d. 12 m

____ 7. Replace ☐ with an integer to make the equation true.

☐ × (–5) = –30

a. +6
b. –6
c. –25
d. +25

____ 8. Which of these products are negative?

i) $(+4)(+8)$
ii) $(+4)(-9)$
iii) $(-5)(+9)$
iv) $(-8)(-5)$

a. i and iv b. ii, iii, and iv c. ii and iv d. ii and iii

____ 9. Inside a cooling tower, the temperature fell 3°C each hour for a total change of −27°C. Find the number of hours it took for the change in temperature.

a. 9 h b. –9 h c. 24 h d. 27 h

____ 10. One day at 3 p.m., the temperature was −6°C in a city in Alaska. At 10 p.m., the temperature was −20°C. What was the average change in temperature per hour?

a. –4°C b. –3°C c. –2°C d. –14°C

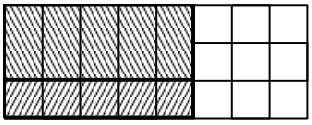
____ 11. Evaluate. $-13+9\div(-3)+9$

a. 1 b. –1 c. 7 d. –7

____ 12. Find $\frac{5}{8}$ of 24.

a. 3 b. $24\frac{5}{8}$ c. 120 d. 15

____ 13. Write the multiplication equation represented by this diagram.



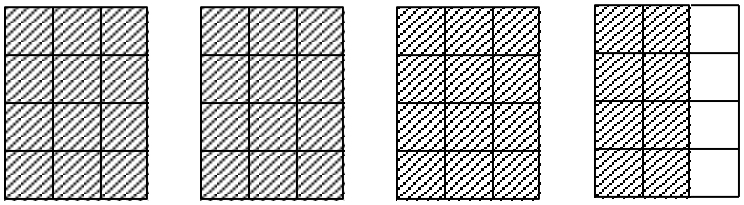
a. $\frac{2}{3}\times\frac{5}{8}=\frac{5}{12}$ c. $\frac{1}{3}\times\frac{5}{8}=\frac{5}{24}$

b. $\frac{3}{1}\times\frac{5}{8}=\frac{15}{18}$ d. $\frac{2}{3}\times\frac{10}{8}=\frac{5}{6}$

____ 14. Write $\frac{39}{8}$ as a mixed number.

a. $7\frac{4}{8}$ b. $4\frac{7}{8}$ c. $40\frac{7}{8}$ d. $4\frac{1}{8}$

____ 15. Write a mixed number and an improper fraction for this model.



a. $3\frac{8}{12};\frac{8}{3}$ b. $3\frac{2}{3};\frac{8}{3}$ c. $3\frac{2}{3};\frac{11}{3}$ d. $3\frac{1}{3};\frac{10}{3}$

____ 16. Find this quotient. $3 \div \frac{2}{5}$

a. $\frac{2}{15}$ b. $\frac{5}{6}$ c. $1\frac{1}{5}$ d. $7\frac{1}{2}$

____ 17. Divide. $\frac{9}{11} \div \frac{1}{4}$

a. $1\frac{3}{44}$ b. $\frac{9}{44}$ c. $\frac{11}{36}$ d. $3\frac{3}{11}$

____ 18. Divide. $1\frac{1}{5} \div 5\frac{1}{4}$

a. $\frac{4}{5}$ b. $6\frac{3}{10}$ c. $4\frac{3}{8}$ d. $\frac{8}{35}$

____ 19. Sally pays $600 per month for rent. This represents $\frac{2}{3}$ of her monthly salary.

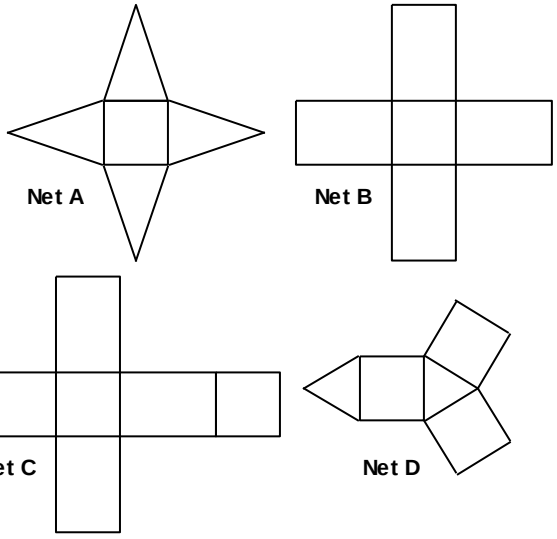
What is Sally's monthly salary?

a. $400 b. $1800 c. $900 d. $1200

____ 20. Evaluate. $\frac{2}{3} + \frac{3}{5} \times \frac{15}{4}$

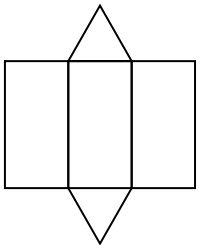
a. $2\frac{11}{12}$ b. $4\frac{3}{4}$ c. $1\frac{1}{4}$ d. $2\frac{1}{12}$

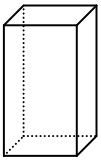
____ 21. Which diagram is the net for a square pyramid?

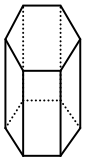


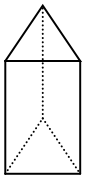
a. Net A b. Net B c. Net C d. Net D

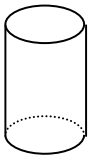
____ 22. Draw the object that has this net.



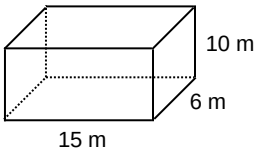
a. 

b. 

c. 

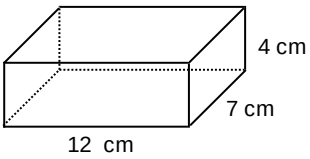
d. 

____ 23. Find the **surface area** of this right rectangular prism.



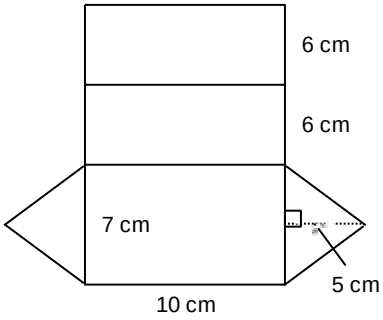
a. 420 m^2 b. 300 m^2 c. 600 m^2 d. 480 m^2

____ 24. Find the **volume** of this rectangular prism.



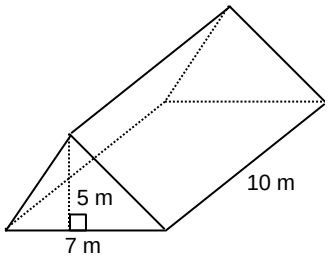
a. 160 cm^3 b. 138 cm^3 c. 336 cm^3 d. 320 cm^3

____ 25. Calculate the **area** of this net of a right triangular prism.



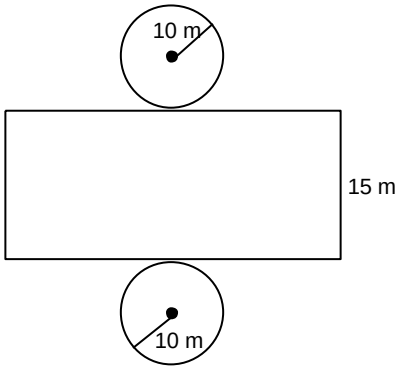
a. 225 cm^2 b. 207.5 cm^2 c. 165 cm^2 d. 147.5 cm^2

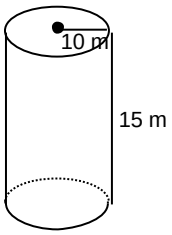
____ 26. Find the **volume** of this triangular prism.



a. 350 m³ b. 88 m³ c. 175 m³ d. 105 m³

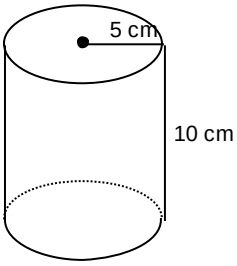
____ 27. Use this net to find the **surface area** of the cylinder. Give the answer to the nearest square metre.





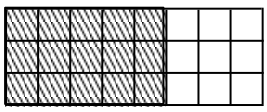
a. 785 m^2 b. 1257 m^2 c. 1100 m^2 d. 1571 m^2

____ 28. Find the **volume** of this cylinder. Round your answer to the nearest tenth.



a. 100 cm^3 b. 157.1 cm^3 c. 314.2 cm^3 d. 785.4 cm^3

____ 29. Write the shaded part of the diagram as a fraction and as a percent.



a. $\frac{5}{24}$; 20.8% b. $\frac{5}{8}$; 62.5% c. $\frac{5}{8}$; 20.8% d. $\frac{5}{12}$; 6.3%

____ 30. Write 175% as a decimal.

a. 1.175 b. 175 c. 1.75 d. 0.175

____ 31. Find 0.4% of 190.

a. 4.75 b. 0.76 c. 0.076 d. 19.04

____ 32. The price of a book increased from $1.90 to $8.10. What is the percent increase in price?
a. 326% b. 77% c. 4% d. 23%

____ 33. Find the total cost of a $363.99 airline ticket with sales taxes of 15%.
a. $418.59 b. $363.99 c. $309.39 d. $417.68

____ 34. A bag contains 4 red balls, 6 blue balls, and 3 yellow balls.
What is the ratio of blue to non-blue balls?
a. 7:6 b. 6:13 c. 6:7 d. 13:6

____ 35. The ratios □:16 and 5:2 are equivalent. Find the missing number.
a. 23 b. 80 c. 32 d. 40

____ 36. Write the part-to-part ratio 11:13 as a part-to-whole ratio.
a. 1:24 b. 24:13 c. 2:24 d. 11:24

____ 37. The scale on a map is 1:800 000. Two cities are 12 cm apart on the map.
What is the actual distance between these 2 cities?
a. 15 km b. 96 km c. 12 km d. 768 km

____ 38. Laura types 240 words in 3 min. What is her unit rate of typing?
a. 80 wpm b. 210 wpm c. 240 wpm d. 720 wpm

____ 39. The price of gas is $0.84 per litre. Find the cost of 7 litres of gas.
a. $5.88 b. $12.00 c. $6.58 d. $2.94

____ 40. Four more than three times a number is 16. Let *n* represent the number. Solve for *n*.
a. 13 b. 9 c. –4 d. 4

____ 41. Write an equation for this sentence.
4 added to 4 times a number is 57.
a. $4 + 4 = 57x$ c. $4 - 4x = 57$
b. $4 + 4x = 57$ d. $4x + 4 = 57$

____ 42. Solve this equation. $\frac{w}{8} - 4 = 0$
a. –32 b. 32 c. –12 d. 12

____ 43. Expand. $-4(q - 2)$
a. $4q + 8$ b. $-4q - 8$ c. $-4q - 2$ d. $-4q + 8$

____ 44. Solve this equation: $4 + 2(x + 5) = 10$
a. $-\frac{10}{3}$ b. –2 c. $\frac{1}{2}$ d. –4

____ 45. Complete this table of values for the relation $y = x - 5$.

x	1	2	3	4
y				

a.

x	1	2	3	4
y	–5	–10	–15	–20

b.

x	1	2	3	4
y	–6	–7	–8	–9

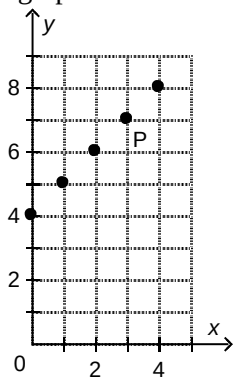
c.

x	1	2	3	4
y	–5	–4	–3	–2

d.

x	1	2	3	4
y	–4	–3	–2	–1

____ 46. This graph shows the linear relation $y = x + 4$.



Write the ordered pair for point P.

a. (1, 1) b. (7, 3) c. (3, 3) d. (3, 7)

____ 47. This table shows the number of students participating in the school recycling program over 5 years.

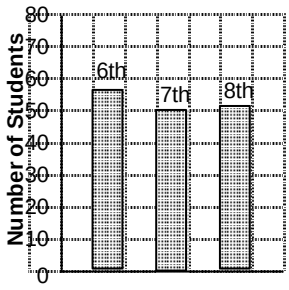
Year	2004	2005	2006	2007	2008
Number of Students	52	73	87	103	121

Which type of graph would you use if you want to look for a trend?

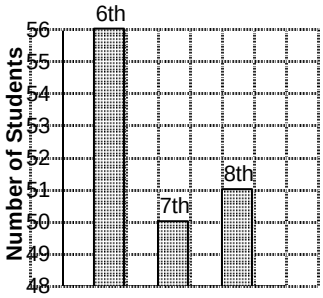
a. Circle graph b. Bar graph c. Line graph d. Pictograph

____ 48. These 2 graphs show the number of honour-roll students in each grade at Bridgeport C. I.

Graph A



Graph B



Which statement is true?

a. The 2 graphs display completely different data.
b. Graph B shows that Grade 6 has more than twice as many honour-roll students as Grade 8.
c. Graph A is a more accurate representation of the data because the graph starts at 0.
d. Both statements A and B

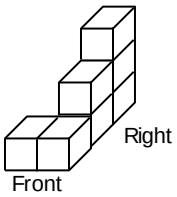
____ 49. A lunch menu consists of 4 sandwiches and 5 drinks.
How many possible meals with one sandwich and one drink can you order?

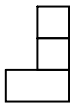
a. 9 meals b. 20 meals c. 14 meals d. 23 meals

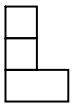
____ 50. A coin is tossed 4 times. What is the probability of tossing 4 tails?

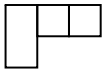
a. 2 b. $\frac{1}{16}$ c. $\frac{1}{32}$ d. $\frac{1}{6}$

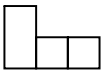
____ 51. This object is made using linking cubes. Draw the front view of this object.



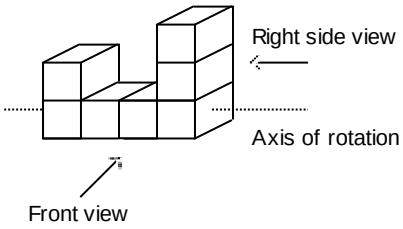
a. 

b. 

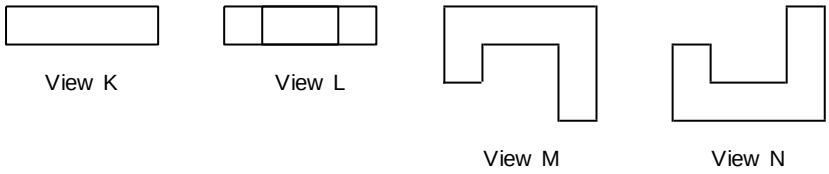
c. 

d. 

____ 52. This object is built using 7 linking cubes.
The object is rotated vertically 90° toward you about the axis shown.

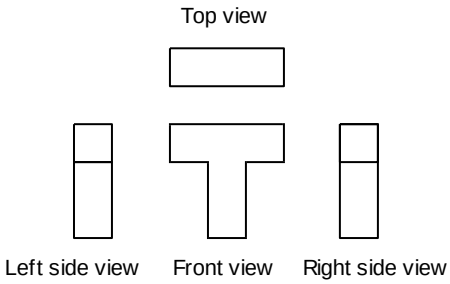


Which view is the top view of the object after the rotation?

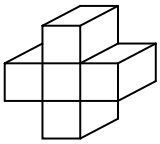


a. View K b. View L c. View M d. View N

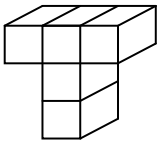
____ 53. These are views of an object built using linking cubes. Sketch the object.



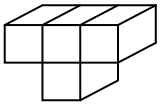
a.



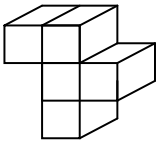
c.



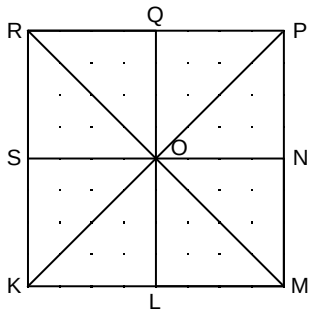
b.



d.

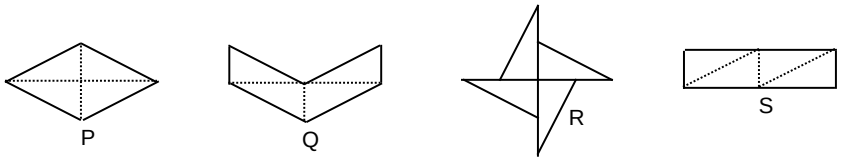


____ 54. Name the image of Triangle PNO after a reflection in the line QL.



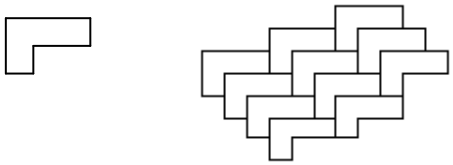
a. Triangle RSO
b. Triangle RQO
c. Triangle OLK
d. Triangle MNO

____ 55. Each composite shape is made using 4 congruent right triangles. Which shape does not tessellate?



a. Shape P
b. Shape Q
c. Shape R
d. Shape S

____ 56. This L-shape below is used to create the design on its right.



Identify the transformations used.
a. Translations only
b. Reflections only
c. Rotations only
d. None of these

Math 8 – Practice Final Exam
Answer Section

1. D 1.1 Square Numbers and Area Models
2. B 1.1 Square Numbers and Area Models
3. C 1.2 Squares and Square Roots
4. C 1.3 Measuring Line Segments
5. A 1.4 Estimating Square Roots
6. B 1.5 The Pythagorean Theorem
7. A 2.1 Using Models to Multiply Integers
8. D 2.2 Developing Rules to Multiply Integers
9. A 2.3 Using Models to Divide Integers
10. C 2.4 Developing Rules to Divide Integers
11. D 2.5 Order of Operations with Integers
12. D 3.1 Using Models to Multiply Fractions and Whole Numbers
13. A 3.2 Using Models to Multiply Fractions
14. B 3.4 Multiplying Mixed Numbers
15. C 3.4 Multiplying Mixed Numbers
16. D 3.5 Dividing Whole Numbers and Fractions
17. D 3.6 Dividing Fractions
18. D 3.7 Dividing Mixed Numbers
19. C 3.8 Solving Problems with Fractions
20. A 3.9 Order of Operations with Fractions
21. A 4.1 Exploring Nets
22. C 4.2 Creating Objects from Nets
23. C 4.3 Surface Area of a Right Rectangular Prism
24. C 4.5 Volume of a Right Rectangular Prism
25. A 4.4 Surface Area of a Right Triangular Prism
26. C 4.6 Volume of a Right Triangular Prism
27. D 4.7 Surface Area of a Right Cylinder
28. D 4.8 Volume of a Right Cylinder
29. B 5.1 Relating Fractions, Decimals, and Percents
30. C 5.2 Calculating Percents
31. B 5.2 Calculating Percents
32. A 5.3 Solving Percent Problems
33. A 5.4 Sales Tax and Discount
34. C 5.5 Exploring Ratios
35. D 5.6 Equivalent Ratios
36. D 5.7 Comparing Ratios
37. B 5.8 Solving Ratio Problems
38. A 5.9 Exploring Rates
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40. D 6.1 Solving Equations Using Models
41. B 6.2 Solving Equations Using Algebra
42. B 6.3 Solving Equations Involving Fractions
43. D 6.4 The Distributive Property
44. B 6.5 Solving Equations Involving the Distributive Property
45. D 6.6 Creating a Table of Values
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47. C 7.1 Choosing an Appropriate Graph
48. C 7.2 Misrepresenting Data
49. B 7.3 Probability of Independent Events
50. B 7.4 Solving Problems Involving Independent Events
51. A 8.1 Sketching Views of Objects
52. C 8.2 Drawing Views of Rotated Objects
53. C 8.3 Building Objects from Their Views
54. A 8.4 Identifying Transformations
55. C 8.5 Constructing Tessellations
56. A 8.6 Identifying Transformations in Tessellations