

**Math 9 Final Exam Review Test – NOT FOR MARKS****Section A: Multiple Choice – 1 mark each**

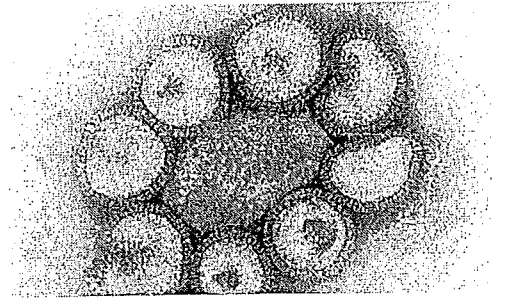
Choose the best response for each multiple-choice question. Marks will not be given for work done in section A.

- After completing the multiplication:  $\frac{2}{5} \times \frac{3}{7}$  What is the numerator?
  - 3
  - 35
  - 6
  - 2
- After changing the mixed number,  $2\frac{1}{3}$ , to an improper fraction, what is the denominator?
  - 3
  - 2
  - 6
  - 7
- Which of the following is a reduced form of:  $\frac{12}{38}$ 
  - $\frac{1}{3}$
  - $\frac{6}{18}$
  - $\frac{6}{19}$
  - $\frac{3}{7}$
- Simplify the following fraction work:  $\frac{2}{5} \times \frac{2}{4}$ 
  - $\frac{4}{20}$
  - $\frac{4}{5}$
  - $\frac{2}{10}$
  - $\frac{1}{5}$
- Reduce the following fraction BEDMAS:  $\frac{2}{3} - \frac{5}{6}$ 
  - $\frac{-1}{6}$
  - $\frac{-3}{-3}$
  - $\frac{-1}{3}$
  - 1
- What should be in the blank spaces:  $4^5 = ( \quad ) ( \quad ) ( \quad ) ( \quad ) ( \quad )$ 
  - 5
  - 4
  - 20
  - 1



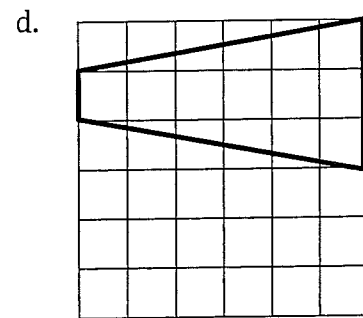
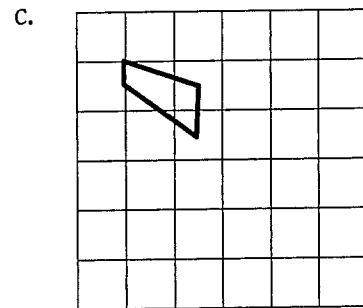
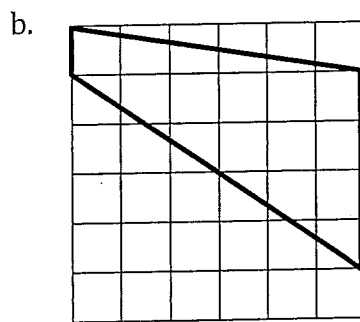
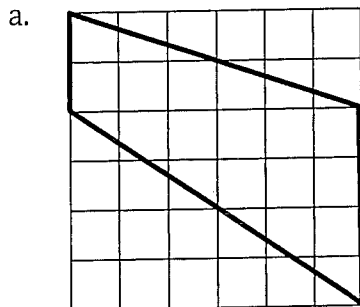
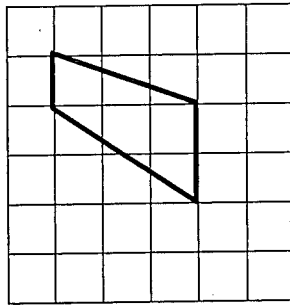
14. A flu virus is pictured to the right, how large is it in real life if the diagram version is 4 cm across?

- a. 0.005 cm
- b. 3200 cm
- c. 5 cm
- d. 0.032 cm



800 : 1

15. If the following object is re-drawn to a scale of 2 : 1. Which of the following is correct?

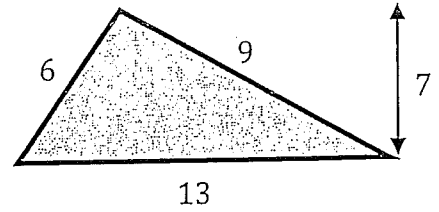


16. A triangle has a base of 10 cm. If it is drawn at a scale of 1:10, what is the size of the new base?

- a. 100 cm
- b. 1 cm
- c. 10 cm
- d. 0.1 cm

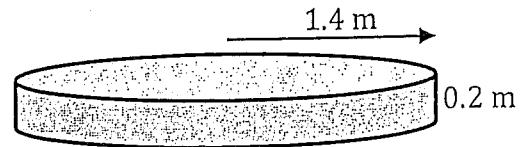
17. What is the area of the triangle to the right?

- a. 28
- b. 702
- c. 46
- d. 35

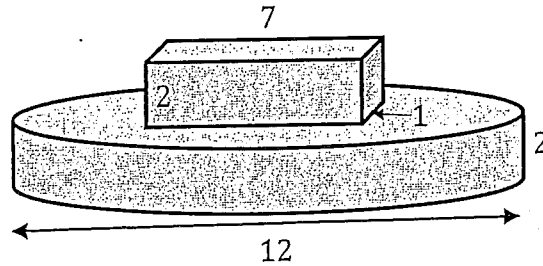


18. What is surface area of the disk to the right?

- a.  $14.1 \text{ m}^2$
- b.  $52.8 \text{ m}^2$
- c.  $14.1 \text{ m}$
- d.  $52.8 \text{ m}$



19. What is the area of overlap in the following diagram?



- a. 7
- b. 14
- c. 2
- d. 334

20. A baby sitter placed an ad in a newspaper: "\$5 travel charge plus \$4 per hour." Which equation best represents the babysitter?

- a.  $Cost = 5 \cdot Hours + 4$
- b.  $Hours = 4 \cdot Cost + 5$
- c.  $Hours = 5 \cdot Cost + 4$
- d.  $Cost = 4 \cdot Hours + 5$

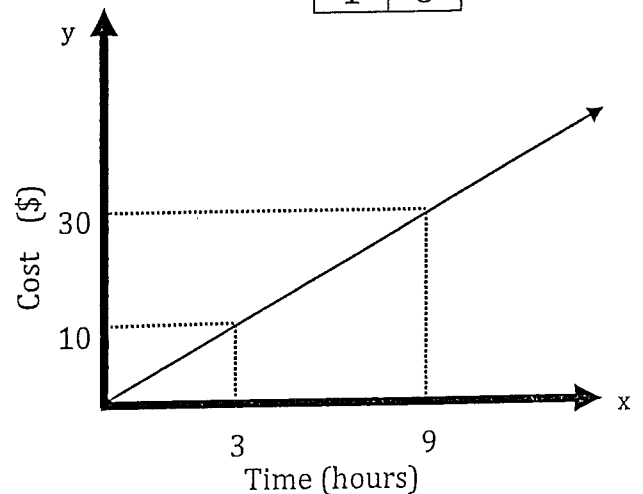
21. What is the rate of change for the table to the right?

- a. 1
- b. 4
- c. -4
- d. -1

x	y
-1	0
0	4
1	8

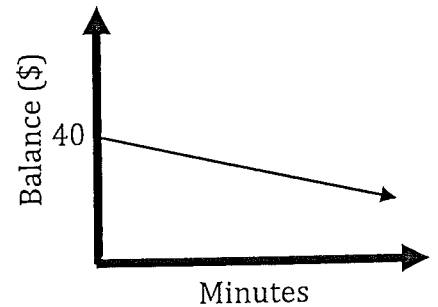
22. How much does it cost to rent a boat for 6 hours if you use the cost-graph to the right?

- a. \$30
- b. \$15
- c. \$20
- d. \$60



23. If the balance on a cell phone account is \$40 and each minute costs \$0.25, how long can a person talk before running out of money?

- a. 160 minutes  
 b. 10 minutes  
 c. 1000 minutes  
 d. 400 minutes



24. What inequality best represents this graph?



- a.  $x > 16$   
 b.  $x < 16$   
 c.  $x \geq 16$   
 d.  $x \leq 16$

25. Solve the following inequality:  $-3x + 4 > 7$

- a.  $x < -1$   
 b.  $x > -1$   
 c.  $x < 1$   
 d.  $x > 1$

26. Which of the following is a binomial?

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

27. What is the degree of the following polynomial?

$$6m^2 + 5x^4 - 3$$

- a. 2  
 b. 4  
 c. 1  
 d. 8

28. How many terms are there once the following polynomial multiplication is fully simplified?

$$(x - 2)(x + 5)$$

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

29. Consider:  $4m^2 + 9x^4 - 7$  Which is not a constant or coefficient?

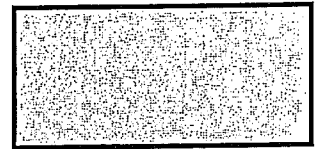
- a. 4  
 b. 9  
 c. -7  
 d. 2

30. Simplify the following polynomial expression:  $(4y - 5x^2) + (-4y - 2x)$

- a.  $8y - 7x^2$
- b.  $-7x^2$
- c.  $-5x^2 + 2x$
- d.  $-5x^2 - 2x$

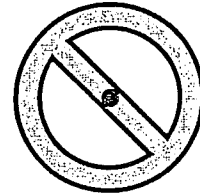
31. What is the number of lines of symmetry for the object?

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



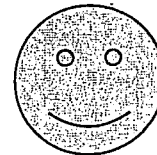
32. What is the angle of rotation for the following object?

- a.  $90^\circ$
- b.  $360^\circ$
- c.  $180^\circ$
- d.  $270^\circ$



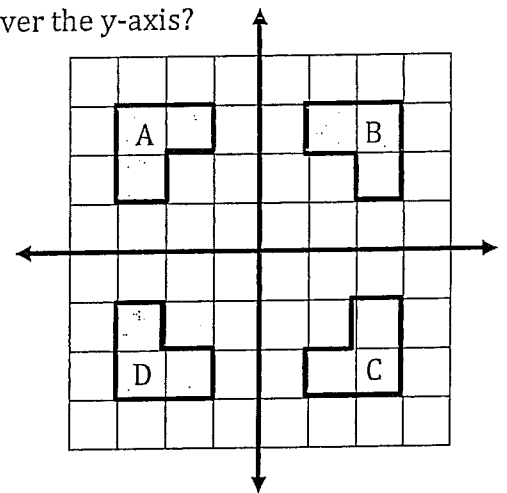
33. What is the maximum order of rotation for the object?

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



34. Which object is the correct reflection of object 'D' over the y-axis?

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

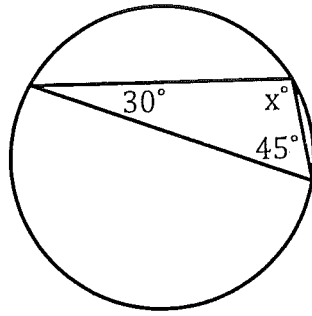


35. Which of the following describes a chord? "A line of a circle..."

- a. joining center and edge."
- b. joining center to center."
- c. touching the circle once."
- d. joining edge to edge."

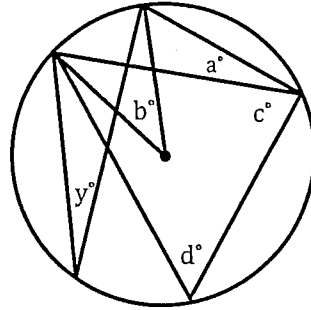
36. What is the measure of angle 'x'?

- a.  $30^\circ$
- b.  $45^\circ$
- c.  $105^\circ$
- d.  $110^\circ$



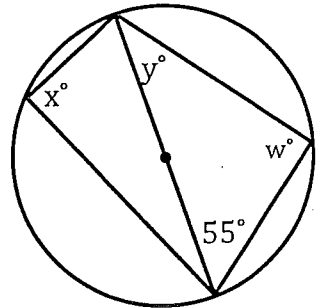
37. Which angle is the same as angle 'y'?

- a.  $\angle a$
- b.  $\angle b$
- c.  $\angle c$
- d.  $\angle d$



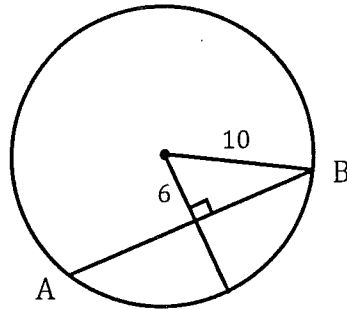
38. Which of the following is true for the diagram to the right?

- a.  $\angle x = 90^\circ$
- b.  $\angle y = 90^\circ$
- c.  $\angle y = 55^\circ$
- d.  $\angle w = 35^\circ$



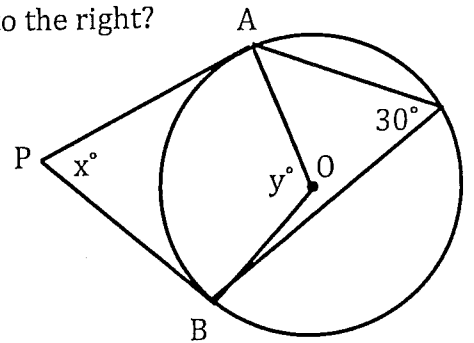
39. What is the length of chord AB?

- a. 4
- b. 8
- c. 16
- d. 20



40. Which of the following is not true for the diagram to the right?

- a.  $\angle x = 60^\circ$
- b.  $AP = BP$
- c.  $\angle y = 60^\circ$
- d.  $AO = BO$



41. What is the probability that you roll a 6-sided die twice and get a '5' both times?
- a. 0.25
  - b. 0.50
  - c. 0.03
  - d. 0.17
42. What is the probability of rolling a '3' on a 6-sided die and flipping 'heads' on a fair coin?
- a. 0.08
  - b. 0.17
  - c. 0.25
  - d. 0.04
43. John wants to buy either a hat or a shirt. He wants the hat/shirt to be either red or blue. What is the probability that he chooses a red hat?
- a. 0.50
  - b. 0.25
  - c. 0.17
  - d. 0.08
44. Which of the following is a question with bias?
- a. Do you like to run cross-country?
  - b. Do you eat at the school cafeteria?
  - c. 60% of people hate taking the bus. Do you like taking the bus?
  - d. Are you too poor to afford formal grad clothing?
45. Which of the following should be found out using a census?
- a. How many students at university have IPODs?
  - b. Do pet owners talk to their animals like they're people?
  - c. Where does my family want to go for dinner?
  - d. How many fish in the lake have brown spots?



**Section B: Written Response - Marks as indicated**

Show all work for full marks. ZERO marks will be given for answers only.  
Answer in the space provided where appropriate.

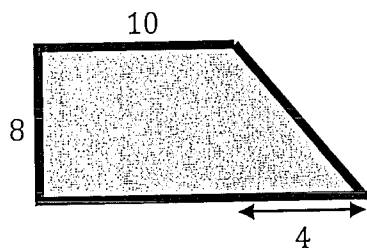
46. Simplify the following fraction BEDMAS:  $\left(\frac{1}{2} + \frac{1}{3}\right) \div \frac{1}{6}$

/3

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47. Determine the area of the following composite shapes:

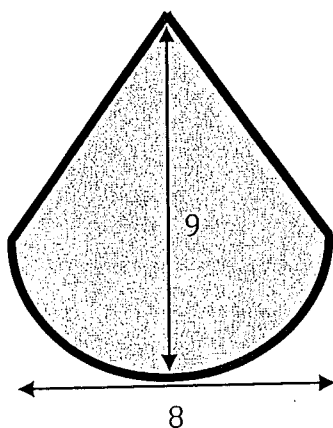
a.



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b.

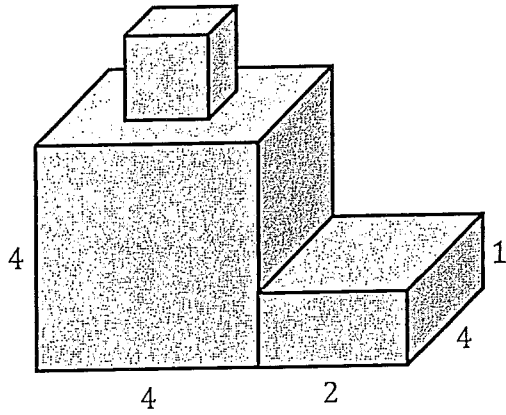


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48. The small cube has side lengths all equal to 1. What is the area of the following composite object?

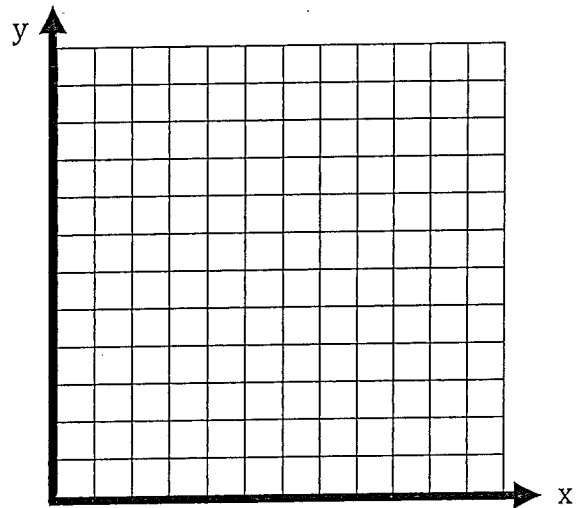
/3



49. Complete the table and graph the following data on the grid provided:

/3

x	y
0	0
5	10
10	
15	30
20	
25	
30	



50. Solve each of the following equations:

a.  $-6m = 36$

/1

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b.  $\frac{p}{3} + 3 = 11$

/2

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51. Write an inequality for each statement:

a. Mr. Belvedere can spend up to 9.5 hours sleeping on Saturday.

/1

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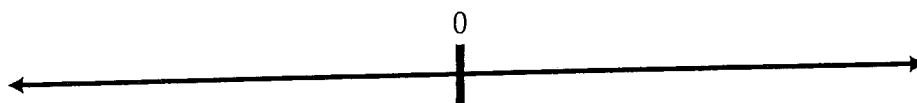
b. Each item costs over \$25.

/1

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52. Graph the following inequality below:  $x > -2$

/1



53. Simplify the following polynomial expressions:

a.  $(2x + 3) - (4x - 3)$  /1

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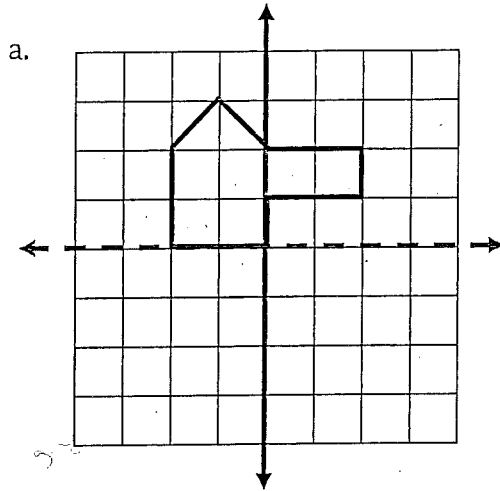
b.  $4x \cdot (2x + 3)$  /1

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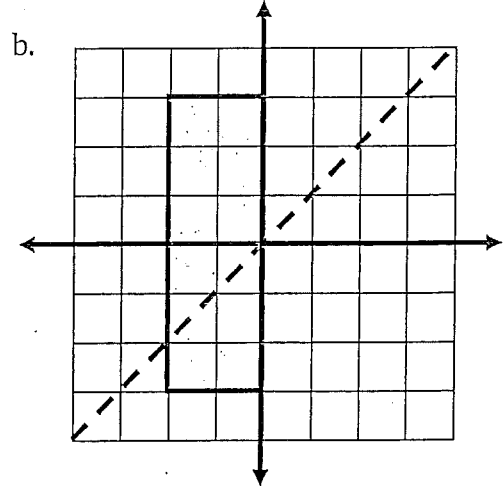
c.  $(2x + 3)(4x - 3)$  /2

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54. Reflect the following objects over the indicated line of reflection: /4

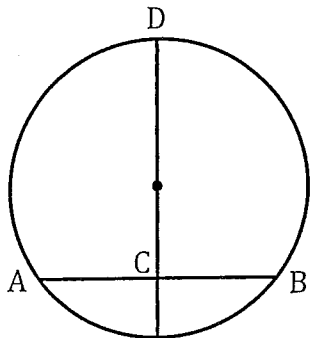


Line of reflection  $\rightarrow$  x-axis



Line of reflection  $\rightarrow$   $y = x$

55. The following is a diagram of a train tunnel through a mountain. Chord AB represents the level ground where the track is. If the radius of the circle is 10 meters and the length from C to D is 16 meters, what is the width of AB?



/2

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56. Create a sample space for flipping a fair coin three times. What is the probability of getting exactly one 'tail'?

/3

57. The following questions were asked in order:

- Most people dislike the cafeteria, what do you dislike most?
- Are you satisfied with the food quality in the cafeteria?
- Is there enough choice in the cafeteria on a day-to-day basis?
- Do you eat in the cafeteria or bring your own lunch?

a. Number the questions 1, 2, 3, or 4 in appropriate order. /1

b. Which question is 'biased'? /1

58. Create a survey question to investigate if the Saanich council should build a new running track.

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