

## PRACTICE - Mathematics Grade 7 Final Exam

### Multiple Choice

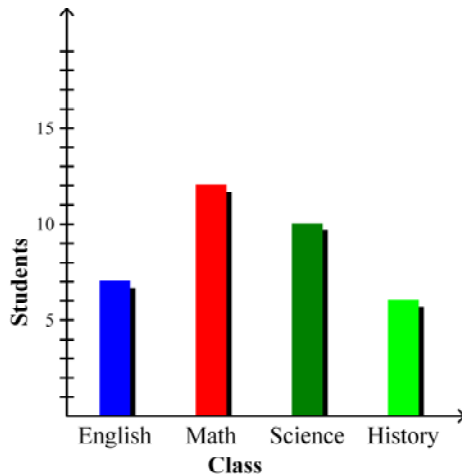
Identify the letter of the choice that best completes the statement or answers the question.

1. Find the mean, median, mode, and range of the following values:

17, 7, 11, 13, 2, 12, 7.

- |   |   |
|---|---|
| a. Mean = 8.5<br>Median = 11<br>Mode = 11<br>Range = 15 | c. Mean = 9.9<br>Median = 11<br>Mode = 7<br>Range = 15  |
| b. Mean = 9.9<br>Median = 13<br>Mode = 7<br>Range = 19  | d. Mean = 9.9<br>Median = 13<br>Mode = 11<br>Range = 19 |

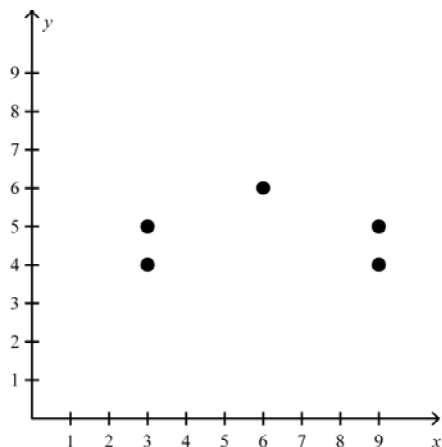
2. A teacher surveys all of the students in his school to find out each student's favorite class. The results of his survey are shown in the bar graph below.



How many more students prefer math than prefer History?

- |               |                |
|---------------|----------------|
| a. 5 students | c. 12 students |
| b. 2 students | d. 6 students  |

3. Does the following scatter plot have a positive correlation, a negative correlation, or no correlation?



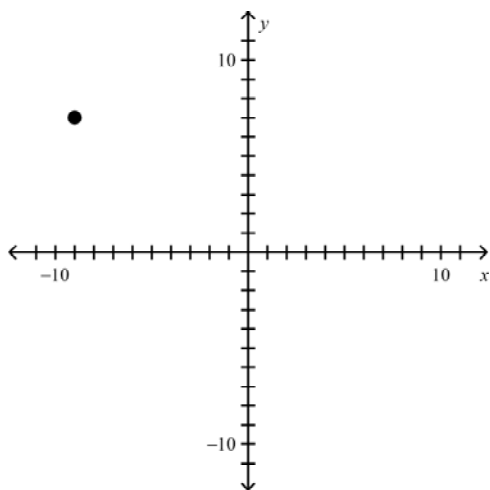
- a. Negative Correlation  
b. Positive Correlation  
c. No Correlation
4. Express  $3^3$  as a number.  
a. 729  
b. 39  
c. 93  
d. 27
- Evaluate each of the following.*
5.  $47 - 4 \times 5 \div 4 + 8$   
a. 14.75  
b. 45.33  
c. 50  
d. 61.75
6. Ben visits the park every 2 days and goes to the library every 5 days. If Ben gets to do both of these today, how many days will pass before Ben gets to do them both on the same day again?  
a. It will be 20 days.  
b. It will be 7 days.  
c. It will be 10 days.  
d. It will be 3 days.
7. Midori cleans the hamster cage every 7 days, brushes the dog every 9 days, and cleans the frog aquarium every 6 days. If Midori does all three today, how many days will pass before Midori takes care of all three of these pets on the same day again?  
a. It will be 9 days.  
b. It will be 63 days.  
c. It will be 126 days.  
d. It will be 42 days.

*Evaluate each expression for the given value of the variable.*

8.  $p - 14$  for  $p = 38$   
a.  $38p - 14$   
b. 52  
c. -532  
d. 24



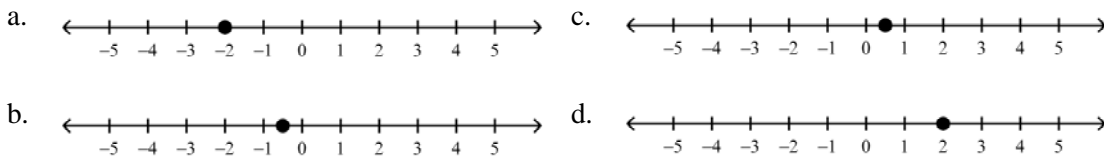
14. Identify the quadrant that contains the point  $(-9, 7)$ .



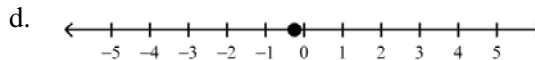
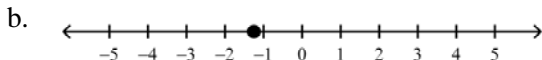
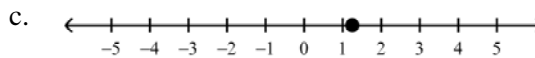
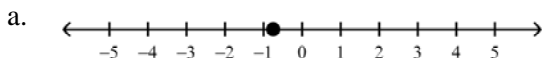
- a. Quadrant III  
b. Quadrant I  
c. Quadrant IV  
d. Quadrant II
15. Evaluate  $p - q$  for the given values.  
 $p = 2, q = 20$
- a.  $-18$   
b.  $22$   
c.  $18$   
d.  $-22$
16. The temperature on the ground during a plane's takeoff was  $-7^{\circ}\text{F}$ . At 38,000 feet in the air, the temperature outside the plane was  $-29^{\circ}\text{F}$ . Find the difference between these two temperatures.
- a.  $-36^{\circ}\text{F}$   
b.  $36^{\circ}\text{F}$   
c.  $-22^{\circ}\text{F}$   
d.  $22^{\circ}\text{F}$
17. Find the quotient.  
 $-36 \div (-4)$
- a.  $9$   
b.  $-32$   
c.  $-40$   
d.  $-9$

*Graph each number on a number line.*

18.  $\frac{1}{2}$



19. -1.25



20. Which is a characteristic of a rational number?

- a. It will always repeat.
- b. It will always terminate.
- c. It can be written in a fraction form.
- d. It must be a whole number.

*Tell whether the two given fractions are equivalent.*

21.  $\frac{3}{8}$  and  $\frac{24}{64}$

- a. The fractions are not equivalent.
- b. The fractions are equivalent.

22. Write  $\frac{20}{8}$  as a mixed number in simplest form.

- a.  $3\frac{3}{8}$
- b.  $2\frac{1}{2}$
- c.  $2\frac{5}{8}$
- d.  $3\frac{1}{2}$

23. Write the decimal -11.04 as a mixed number in simplest form.

- a.  $-11\frac{1}{25}$
- b.  $11\frac{1}{25}$
- c.  $-11\frac{-4}{100}$
- d.  $-11\frac{-4}{1000}$

24. Which decimal is less than 3.19?

- a. 3.179
- b. 3.2
- c. 3.291
- d. 3.1911

25. A length of rope 4.12 feet long is cut into pieces 2.06 feet long. About how many pieces would there be? Use estimation to determine your answer.

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

26. Multiply. Estimate to check whether the answer is reasonable.

-4.148 • 11.509

- a. -47.739332
- b. -4.7739332
- c. -4.7639332
- d. -47.639332

27. A box contains 10 books, and each book weighs, on average, 2.3 pounds. How much does the entire box weigh?

- a. 18.4 pounds
- b. 23 pounds
- c. 12.3 pounds
- d. 3 pounds

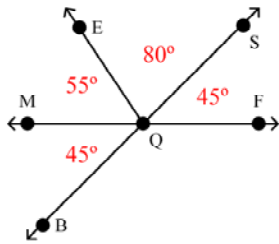
28. Divide. Estimate to check whether the answer is reasonable.  
 $306 \div 3.4$   
 a.  $-90$  c.  $90$   
 b.  $-900$  d.  $9$
29. Solve the following.  
 $2.02w = -3.636$   
 a.  $-5.656$  c.  $-18$   
 b.  $1.8$  d.  $-1.8$
30. Kristi had \$7.00 when she went to the store. When she got back, she had \$2.36. How much did she spend?  
 a. \$9.36 c. \$4.83  
 b. \$6.76 d. \$4.64
31. Gravity on Mars is about 0.377 times gravity on Earth. If an object weighs 7.123 kg on Mars, how much does it weigh on Earth? Round your answer to the nearest thousandth.  
 a. 188.939 kg c. 2.685 kg  
 b. 18.894 kg d. 7.5 kg
32. Multiply. Write the answer in simplest form.  
 $-9 \times \frac{6}{7}$   
 a.  $-\frac{54}{7}$  c.  $-\frac{21}{2}$   
 b.  $\frac{21}{2}$  d.  $-\frac{2}{21}$
33. Divide. Write the answer in simplest form.  
 $2\frac{1}{6} \div \frac{1}{13}$   
 a.  $\frac{1}{6}$  c.  $6$   
 b.  $\frac{6}{169}$  d.  $28\frac{1}{6}$
34. A first-class letter can weigh up to 13 ounces before additional charges must be added. Estimate how much more weight can be added to a letter that weighs  $10\frac{1}{3}$  ounces.  
 a.  $3\frac{9}{20}$  ounces c.  $2\frac{1}{2}$  ounces  
 b.  $3\frac{1}{2}$  ounces d.  $1\frac{1}{2}$  ounces
35. A hiking trail through the woods is  $8\frac{1}{13}$  miles long. Suppose a hiker has already traveled  $5\frac{1}{2}$  miles. Estimate to determine how much of the trail is left for the hiker to walk.  
 a. 1 miles c.  $2\frac{1}{2}$  miles  
 b.  $1\frac{17}{20}$  miles d.  $2\frac{57}{100}$  miles







Use figure below to answer question 51.

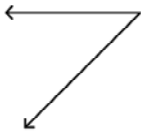


**Figure 7-5**

51. What is the measure of  $\angle BQE$  in Figure 7-5?

- a.  $55^\circ$
- b.  $100^\circ$
- c.  $180^\circ$
- d.  $125^\circ$

52. Tell whether the angle below is acute, right, obtuse, or straight.



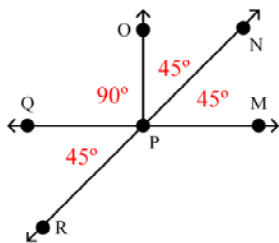
- a. Right angle
- b. Straight angle
- c. Obtuse angle
- d. Acute angle

53. Tell whether the angle below is acute, right, obtuse, or straight.



- a. Obtuse angle
- b. Straight angle
- c. Acute angle
- d. Right angle

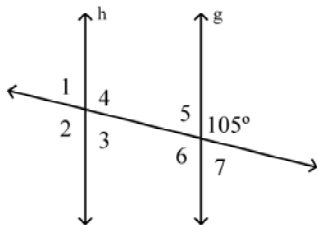
Use the figure below to answer question 54.



**Figure 7-10**

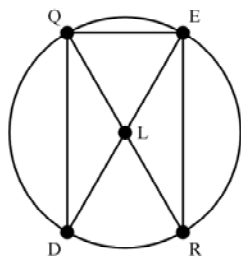
54. Name one pair of complementary angles in Figure 7-10 above.
- |                                  |                                  |
|----------------------------------|----------------------------------|
| a. $\angle NPO$ and $\angle MPN$ | c. $\angle MPN$ and $\angle RPQ$ |
| b. $\angle QPN$ and $\angle NPM$ | d. $\angle RPO$ and $\angle OPN$ |

Given  $g \parallel h$ , use the following figure to answer question 55.

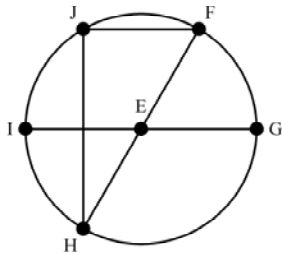


**Figure 7-13**

55. Find the measure of  $\angle 5$  in Figure 7-13.
- |                |                |
|----------------|----------------|
| a. $105^\circ$ | c. $85^\circ$  |
| b. $75^\circ$  | d. $110^\circ$ |



56. Identify the Radii in circle  $L$  above.
- |  |   |
|--|---|
| a. $\overline{EQ}$                               | c. $\overline{LE}, \overline{LR}, \overline{LD}, \overline{LQ}$ |
| b. $\overline{RE}, \overline{DQ}, \overline{QE}$ | d. $\overline{DE}, \overline{QR}$                               |

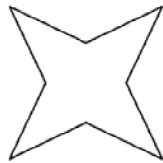


57. Identify the diameter in circle  $E$  above.

- a.  $\overline{HF}, \overline{IG}$   
 b.  $\overline{FI}$

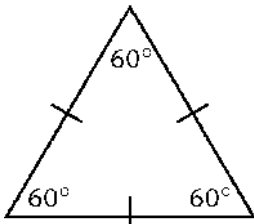
- c.  $\overline{EF}, \overline{EG}, \overline{EH}, \overline{EI}$   
 d.  $\overline{HJ}, \overline{FJ}$

58. Determine whether the figure is a polygon.



- a. No  
 b. Yes

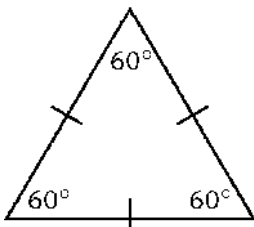
59. Name the polygon, and tell whether it is a regular polygon.



- a. Triangle; no  
 b. Triangle; yes

- c. Quadrilateral; yes  
 d. Quadrilateral; no

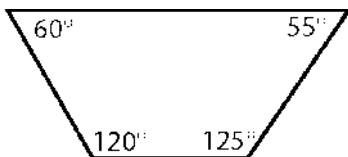
60. Name the polygon, and tell whether it is a regular polygon.



- a. Triangle; no  
 b. Triangle; yes

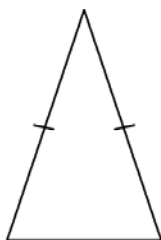
- c. Quadrilateral; yes  
 d. Quadrilateral; no

61. Name the polygon, and tell whether it is a regular polygon.



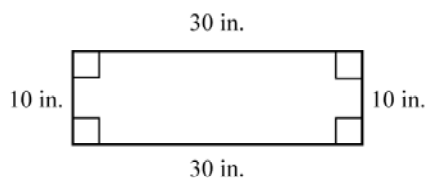
- a. Nonagon; no
- b. Quadrilateral; no
- c. Nonagon; yes
- d. Quadrilateral; yes

62. Classify the triangle according to its sides and angles.



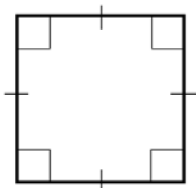
- a. Acute triangle
- b. Equilateral acute triangle
- c. Isosceles acute triangle
- d. Isosceles triangle

63. Give all of the names that apply to the quadrilateral.



- a. Parallelogram
- b. Parallelogram; rectangle
- c. Parallelogram; square
- d. Rectangle

64. Give all of the names that apply to the quadrilateral.



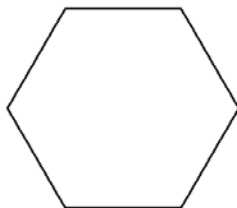
- a. Parallelogram; rhombus
- b. Parallelogram; rectangle
- c. Parallelogram; rhombus; rectangle; square
- d. Parallelogram; square

65. Tell whether the statement is true or false. Explain your answer.

**All rhombuses are squares.**

- a. False
- b. True; a rhombus has four congruent sides.
- c. True
- d. False; all rhombuses do not have four  $90^\circ$  angles.

66. Divide the polygon into triangles to find the sum of its angle measures.



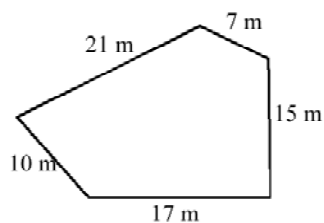
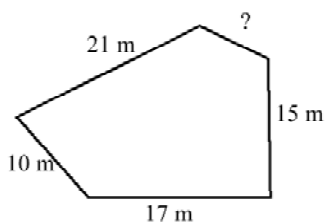
- a.  $720^\circ$
- b.  $540^\circ$
- c. 4
- d.  $900^\circ$

67. Name the congruent figures in the picture below.



- a. There are no congruent figures.
- b. All of the buttons are congruent.
- c. The “=” button and the screen are congruent.
- d. All of the buttons except the “=” button are congruent.

68. Determine the missing measure in the set of congruent polygons.



- a. 8 m
- b. 7 m
- c. 17 m
- d. 22 m

69. Identify the type of transformation.



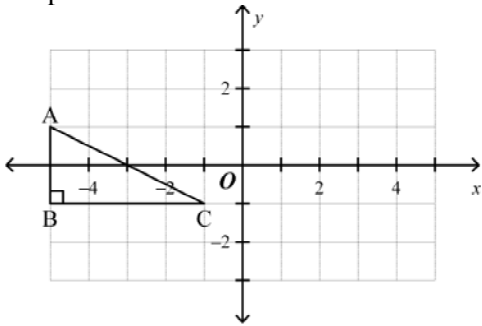
- a. Translation
- b. Rotation
- c. Reflection

70. Identify the type of transformation.

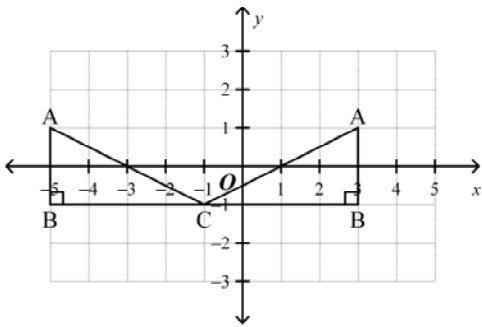


- a. Reflection
- b. Translation
- c. Rotation

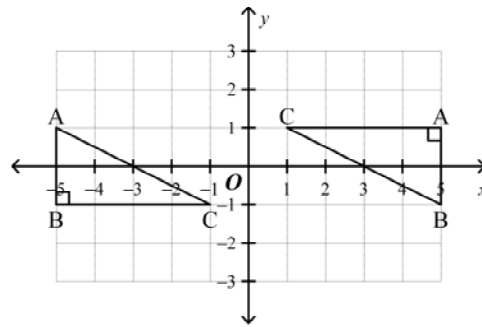
71. Graph the transformation: Reflect  $\triangle ABC$  across the y-axis.



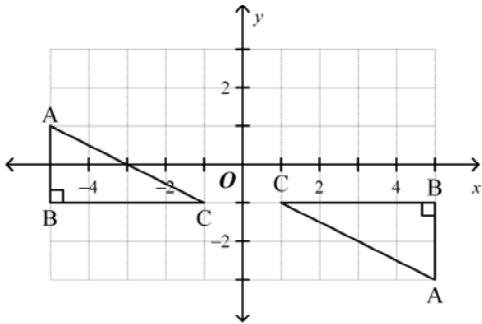
a.



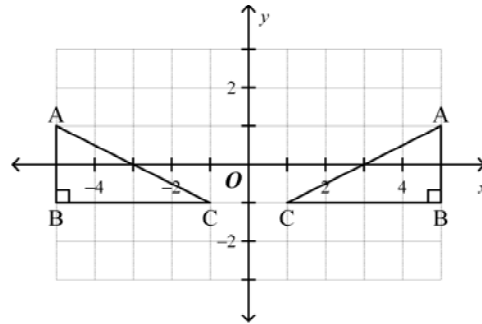
c.



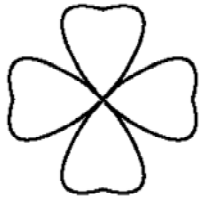
b.



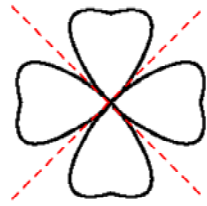
d.



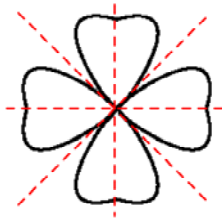
72. Decide whether the figure has line symmetry. If it does, draw all the lines of symmetry.



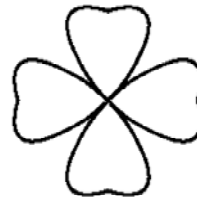
a.



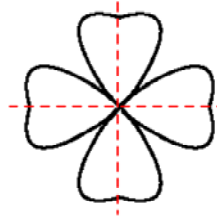
b.



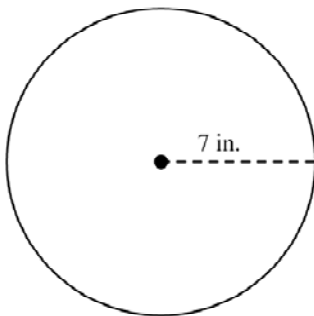
c. None



d.



73. Find the circumference of the circle below to the nearest tenth. Use 3.14 for  $\pi$ .



a. 22 in.

b. 153.9 in.

c. 44 in.

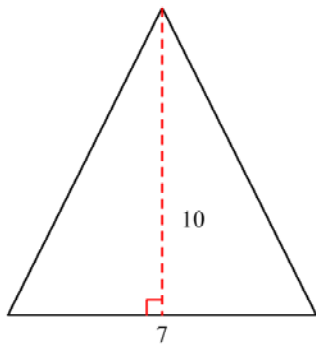
d. 483.1 in.



74. Olivia is planning on making a circular garden. If the diameter of the garden is 77 yards, what is its circumference? Use  $\frac{22}{7}$  for  $\pi$ .

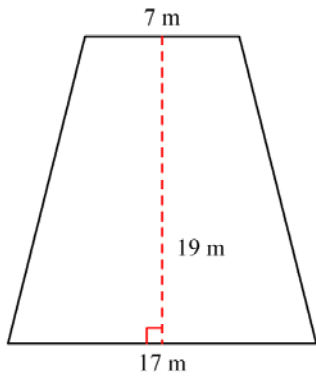
- a.  $4658\frac{3}{7}$  yd
- b. 18634 yd
- c. 121 yd
- d. 242 yd

75. Find the area of the triangle.



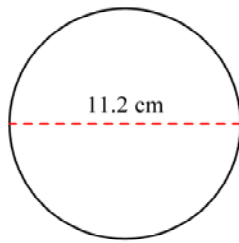
- a. 70 square units
- b. 35 square units
- c. 27 square units
- d. 8.5 square units

76. Find the area of the trapezoid.



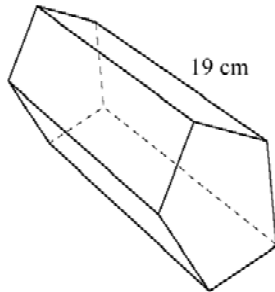
- a. 912 m<sup>2</sup>
- b. 323 m<sup>2</sup>
- c. 228 m<sup>2</sup>
- d. 24 m<sup>2</sup>

77. Find the area of the circle to the nearest tenth. Use 3.14 for  $\pi$ .



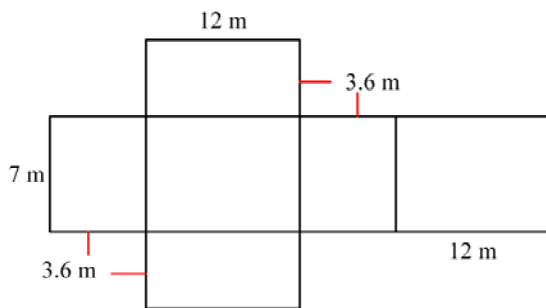
- a.  $309.2 \text{ cm}^2$
- b.  $98.5 \text{ cm}^2$
- c.  $35.2 \text{ cm}^2$
- d.  $393.9 \text{ cm}^2$

78. Find the volume of the prism to the nearest tenth if the area of the base is 48.91 square cm.



- a.  $2,392.2 \text{ cm}^3$
- b.  $67.9 \text{ cm}^3$
- c.  $361 \text{ cm}^3$
- d.  $929.3 \text{ cm}^3$

79. Determine the surface area of the prism formed by the following net.



- a.  $302.4 \text{ m}^2$
- b.  $304.8 \text{ m}^2$
- c.  $152.4 \text{ m}^2$
- d.  $76.4 \text{ m}^2$

*For each case described below, determine how likely the event is to occur.*

80. Suppose you flip a coin. What is the likelihood the coin will land heads up?
- a. Impossible
  - b. Unlikely
  - c. As likely as not
  - d. Likely
  - e. Certain
81. Three parts are available in the school play. Four students try out for these three parts. The director of the play fills all the parts. How likely is it that any one student who tried out will be in the school play?
- a. Impossible
  - b. Unlikely
  - c. As likely as not
  - d. Likely
  - e. Certain
82. During the summer, your friend has swimming lessons every Tuesday and Thursday morning at the neighborhood pool. How likely is it that you'll see your friend at the pool on Tuesday morning during the summer?
- a. Impossible
  - b. Unlikely
  - c. As likely as not
  - d. Likely
  - e. Certain
83. Your CD player is set up to play songs at random from the compact disc. The CD in your player has 10 songs. When you press play, what is the likelihood the first song you hear will be your favorite song on the CD?
- a. Impossible
  - b. Unlikely
  - c. As likely as not
  - d. Likely
  - e. Certain

Bonita is in a science class that has surprise quizzes given at random during the year. In the last 17 days of science class, Bonita had 1 surprise quiz.

84. What is the experimental probability Bonita will have a science quiz tomorrow?
- a.  $\frac{1}{17}$
  - b.  $\frac{17}{16}$
  - c.  $\frac{16}{17}$
  - d.  $\frac{17}{1}$

A carnival has a duck-pond booth where you win a small, medium, or large prize if you select a specially marked plastic duck as the ducks float by. There are a total of 61 plastic ducks floating in the pond. There are 7 ducks marked as large-prize winners, 9 ducks marked as medium-prize winners, and 21 ducks marked as small-prize winners.

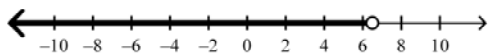
85. What is the theoretical probability, expressed as a percent, of winning a medium prize at the duck pond?
- a. 677.778
  - b. 60.656
  - c. 14.754
  - d. 85.246
86. What is the theoretical probability, expressed as a percent, of winning any type of prize at the duck pond?
- a. 60.656
  - b. 39.344
  - c. 34.426
  - d. 164.865



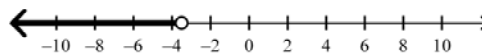
95. Solve. Then graph the solution set on a number line.

$w - 5 < 1.5$

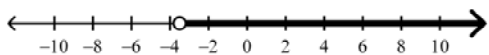
a.  $w < 6.5$



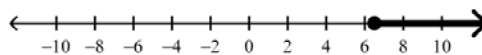
c.  $w < -3.5$



b.  $w < -3.5$



d.  $w < 6.5$



96. Trish spent \$13.25 on supplies to make lemonade to sell on her sidewalk. At least how many glasses of lemonade must she sell at \$0.36 per glass to make a profit?

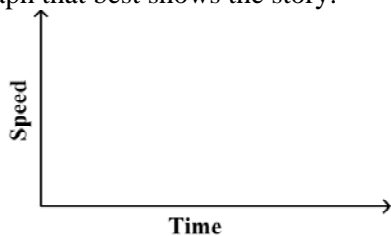
a. At most 4.77 glasses

c. At most 36.81 glasses

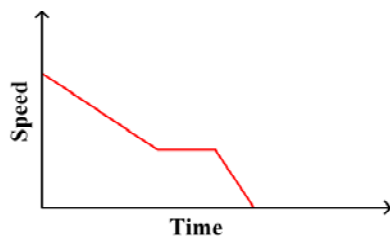
b. At least 5 glasses

d. At least 37 glasses

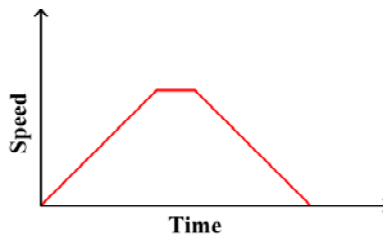
97. As an airplane starts to land, it gradually slows down until it reaches its landing speed. It stays at this speed until it touches the ground. After touching the ground, the plane quickly slows to a complete stop. Draw a graph that best shows the story.



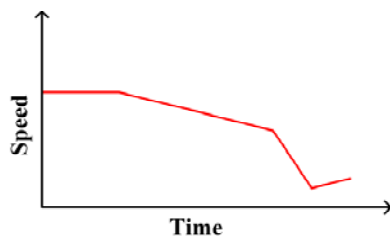
a.



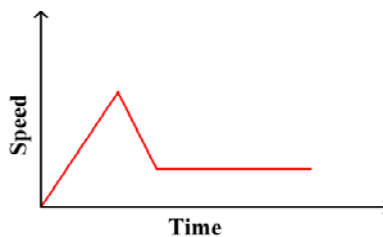
c.



b.

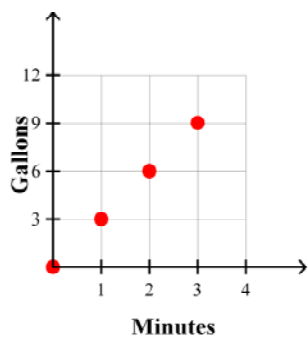


d.

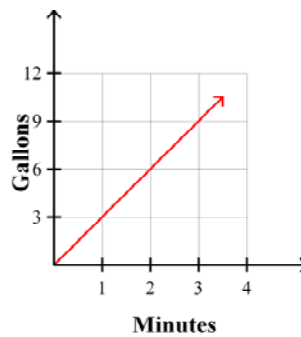


98. A faucet releases 3 gallons of water per minute. Which graph shows how much water the faucet releases.

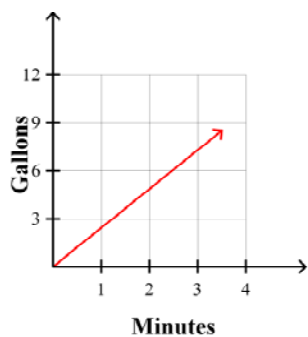
a.



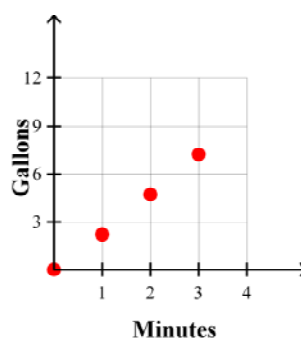
c.



b.



d.



99. Give the slope and y-intercept of the line, given the equation.

$$y = -12x - 3$$

a. Slope =  $-3$

y-intercept =  $-12$

b. Slope =  $-12$

y-intercept =  $-3$

c. Slope =  $9$

y-intercept =  $3$

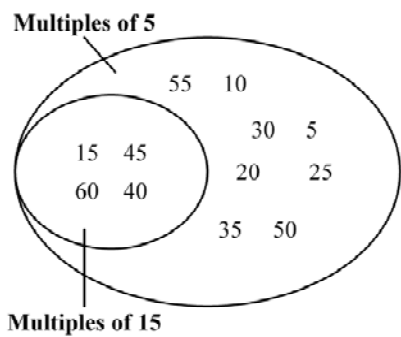
d. Slope =  $3$

y-intercept =  $9$

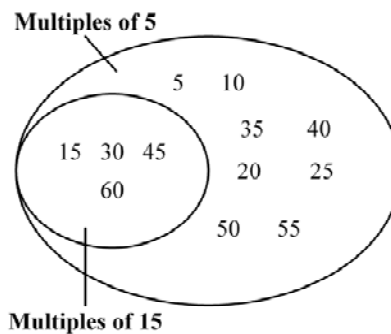
100. Draw a Venn diagram to show the relationships between the sets.

Set	Elements
Multiples of 5	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60
Multiples of 15	15, 30, 45, 60

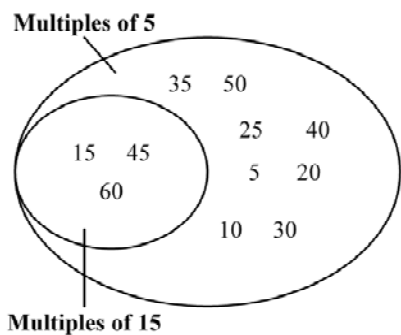
a.



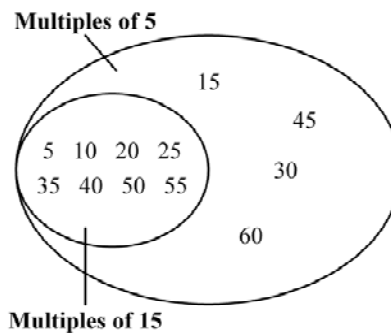
c.



b.



d.



**PRACTICE - Mathematics Grade 7 Final Exam  
Answer Section****MULTIPLE CHOICE**

1. ANS: C                   PTS: 1
2. ANS: D                   PTS: 1
3. ANS: C                   PTS: 1
4. ANS: A                   PTS: 1
5. ANS: C                   PTS: 1
6. ANS: C                   PTS: 1
7. ANS: C                   PTS: 1
8. ANS: D                   PTS: 1
9. ANS: A                   PTS: 1
10. ANS: A                   PTS: 1
11. ANS: B                   PTS: 1
12. ANS: D                   PTS: 1
13. ANS: B                   PTS: 1
14. ANS: D                   PTS: 1
15. ANS: A                   PTS: 1
16. ANS: D                   PTS: 1
17. ANS: A                   PTS: 1
18. ANS: B                   PTS: 1
19. ANS: B                   PTS: 1
20. ANS: C                   PTS: 1
21. ANS: B                   PTS: 1
22. ANS: B                   PTS: 1
23. ANS: A                   PTS: 1
24. ANS: A                   PTS: 1
25. ANS: A                   PTS: 1
26. ANS: A                   PTS: 1
27. ANS: B                   PTS: 1
28. ANS: C                   PTS: 1
29. ANS: D                   PTS: 1
30. ANS: D                   PTS: 1
31. ANS: B                   PTS: 1
32. ANS: A                   PTS: 1
33. ANS: D                   PTS: 1
34. ANS: C                   PTS: 1
35. ANS: C                   PTS: 1
36. ANS: D                   PTS: 1
37. ANS: C                   PTS: 1
38. ANS: A                   PTS: 1
39. ANS: A                   PTS: 1
40. ANS: A                   PTS: 1