

1. Which table shows a decreasing linear relationship?

- a. F
- b. H
- c. I

G

Table H	
X	Y
4	56
5	56
6	56
7	56

Table F	
X	Y
4	5
7	7
10	9
13	11

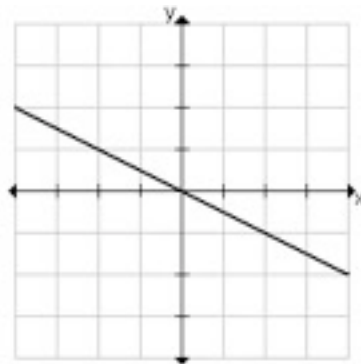
Table G	
X	Y
4	124
8	267
12	407
16	551

Table I	
X	Y
14	58
24	47
34	36
44	25

2. Representations of two different functions are shown below. Compare their rates of change.

$$y = \frac{1}{x} + 3$$

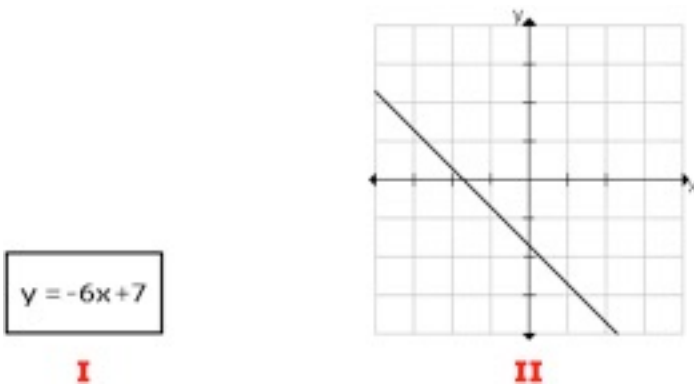
I



II

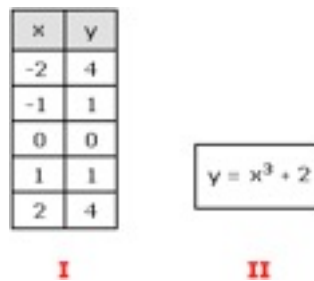
- a. The slope of item I has a rate of change that varies. The slope of item II has a constant rate of change.
- b. The slope of item I has a constant rate of change. The slope of item II has a rate of change that varies.
- c. The slopes of both items have a constant rate of change.
- d. The slopes of both items have a rate of change that varies.

3. Which of the following statements correctly describes the items shown below?



- a. Both items are increasing.
- b. Both items are decreasing.
- c. Item I is decreasing. Item II is increasing.
- d. Item I is increasing. Item II is decreasing.

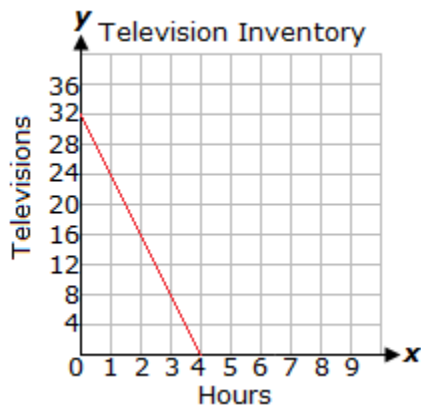
4. Representations of two different functions are shown below. Compare their rates of change.



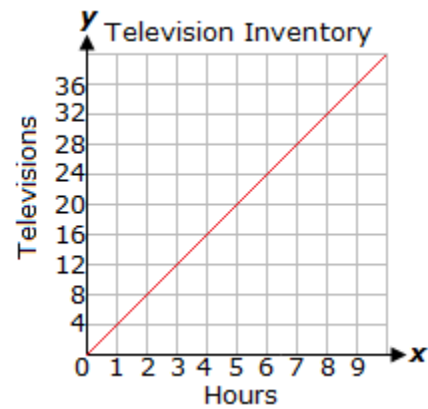
- a. Item I has a rate of change that varies. Item II has a constant rate of change.
- b. Both items have a constant rate of change.

- c. Both items have a rate of change that varies.
- d. Item I has a constant rate of change. Item II has a rate of change that varies.

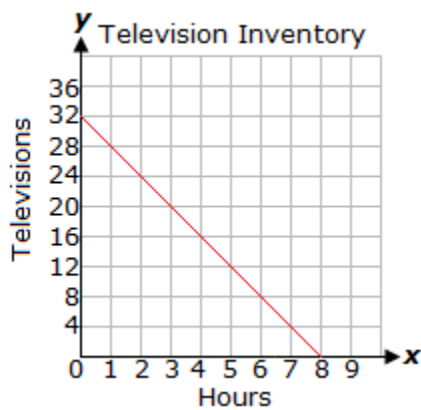
5. An electronics store had a one day sale to clear out their television inventory prior to new shipments. When the store opened, they had 32 televisions in stock. The store sold 4 televisions an hour until closing. **Which graph represents the number of televisions in stock after x hours?**



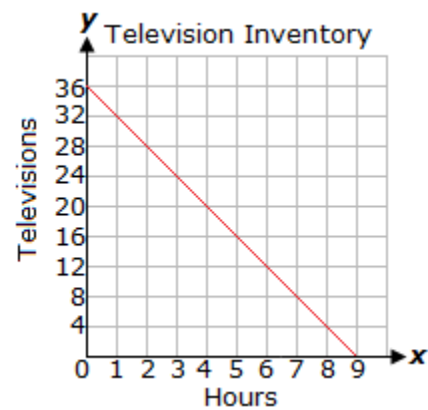
W.



X.



Y.



Z.

- a. w
- b. x
- c. y
- d. z

6. Pilar is a waitress. She earns \$3.75 per hour, plus tips. On Wednesday, she made \$115.21 in tips. [6a and 6b are worth $\frac{1}{2}$ point each]

6a. Which equation below represents the amount of money she made on Wednesday, w , if she worked for a certain number of hours, h ?

- a. $W = 115.2h - 3.75$
- b. $W = 115.2j + 3.75$
- c. $W = 3.75j + 115.21$
- d. $W = 3.75h - 115.21$

6b. Solve for w if Pilar worked a total of 8 hours.

- a. \$145.21
- b. \$85.21
- c. \$925.43
- d. \$917.93

7. Jocelyn opened a lemonade stand. She sold cups of lemonade for \$0.80 each and cookies for \$1.85 each. She sold 14 cookies and made a total of \$44.30 **How many cups of lemonade did she sell?**

- a. 2
- b. 55
- c. 23
- d. 37

8. If $5x=25$, then consider $2y + 3x = 27$. What is the value of y ?

- a. $Y = -6$
- b. $Y = 6$
- c. $Y = 21$
- d. $Y = 9$

9. Find the value of R : $-4 = r/2 - 5(5-4)$

- a. 11
- b. 180
- c. 20
- d. -20

10. $2x + (9/3) = -13$. What value of x makes this equation true?

- a. -5
- b. 8
- c. 5
- d. -8

11. Victoria is 4 years older than Julianna. The sum of their ages is at least 13 and no more than 25. Which inequality is correct?

- a. $13 \leq 2J + 4 \leq 25$
- b. $13 \leq 2J - 4 \leq 25$
- c. $13 < J + 4 \leq 25$

d. $13 < J - 4 \leq 25$

12. Solve for x ; $(x/7) \geq 3$

a. $x \leq 18$

b. $x \geq 21$

c. $x \leq 21$

d. $x \geq 18$

13. Which values of x make the sentence true? $1/46x > 55$

F.



-1

0

1

2

3

4

5

G.



2528

2529

2530

2531

2532

2533

2534

H.



- 1
- 0
- 1
- 2
- 3
- 4
- 5

I.



- 2528
- 2529
- 2530
- 2531
- 2532
- 2533
- 2534

- a. I
- b. H
- c. G
- d. F

14. When shopping for a baby doll for her daughter, Ms. Martin found that the price of three baby dolls was less than \$81. Find the value of x .

- a. $x > 27$
- b. $x \leq 3x + 29$
- c. $x < 27$
- d. $x \leq 27$

15. Which values of x make the sentence true? $83x < 4,399$

H.



51
52
53
54
55
56
57

I.



4314
4315
4316
4317
4318
4319
4320

J.



51
52
53
54
55
56
57

K.



4314
4315
4316
4317
4318
4319
4320

- a. H
- b. I
- c. J
- d. K

16. Amber is doing a research project in science class. She wants to know how much rain various cities in Oklahoma receive. Help Amber order the evidence she collected by listing the rainfall totals of the cities from least to greatest.

City	Total Rainfall Amount
Tulsa (T)	$\frac{5}{12}$
Oklahoma City (O)	.0109
Enid (E)	12%
Lawton (L)	$\frac{2}{8}$
Clinton (C)	.005

- a. O, E, L, C, T
- b. C, L, E, O, T
- c. O, T, L, E, C
- d. C, O, E, L, T

17. Order the following rational numbers from least to greatest.

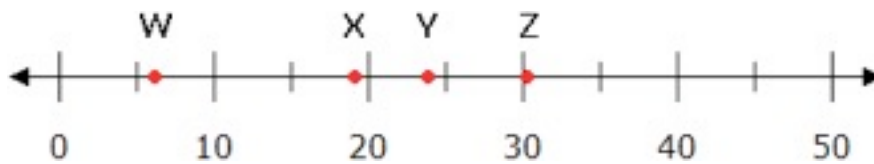
H	I	J	K
$-\frac{5}{6}$	$-.2001$	20%	$-\frac{7}{8}$

- a. J, H, K, I
- b. I, J, K, H
- c. I, H, K, J
- d. K, H, I, J

18. The square root of 114 is between which two integers?

- a. 11 and 12
- b. 10 and 11
- c. 8 and 9
- d. 9 and 10

19. Which point is closest to the value of $\sqrt{580}$?



- a. W
- b. X
- c. Y
- d. Z

20. If $x = 100$, what is the value of $4\sqrt{x}$?

- a. 20
- b. 40
- c. 100
- d. 200

21. The chart below describes the speed of four desktop printers. **Which printer is**

Printer	Description
Roboprint	Prints 2 pages per second
Volltronn	Prints 1 page every 2 seconds
Vantek Plus	Prints 160 pages in 2 minutes

the fastest?

- a. Roboprint
- b. Voltronn
- c. Vantek Plus
- d. DLS Pro

22. Robert wants to buy cans of vegetables. He notices that 8 cans are on sale for \$2.49, but he only needs 6 cans. What would Robert pay for 6 cans if they sold each can at the same unit price as the advertised sale for 8 cans?

- a. \$1.87
- b. \$11.21
- c. \$2.49
- d. \$3.32

23. A recipe calls for $\frac{2}{3}$ cup of milk for 10 cookies. If you want to use this recipe to make 120 cookies, how many cups of milk do you need?

- a. 20
- b. 9
- c. 8
- d. 80

24. The percentage discount at a store is determined using the table to the right. Shamika bought 3 skirts that cost \$25 each before the discount. The store applies the discount before they calculate the sales tax (8%). What was her total after the discount and the sales tax?

Sale Discounts

Total Purchases	Discount
less than \$50	25%
\$50 to \$100	30%
over \$100	35%

- a. \$44.00
- b. \$48.75
- c. \$52.50

d. \$56.70

25. Hayden earns \$15 an hour plus 20% commission from every sale that he makes. During a two week period, Hayden worked 80 hours and made a total of \$3000 in sales. What was the total amount of Hayden's paycheck for the 2 week period?

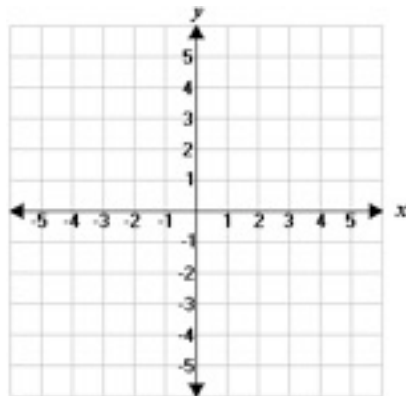
- a. \$1200
- b. \$600
- c. \$1800
- d. \$2400

26. Simplify the following expression: $6 - 4[(5 + 2)^3 - (2^2 + 7)]$

- a. -1,322
- b. -482
- c. -1,382
- d. -1,378

27. If an isosceles triangle is drawn with the following vertices $(-5, -5)$ and $(-1, 5)$, which of the following could be the coordinate of the third vertex?

- a. $(-1, 2)$
- b. $(-3, 2)$
- c. $(-2, 2)$
- d. $(3, 2)$



28. Megan is looking at a quadrilateral with the following traits. What type of quadrilateral is Megan looking at? NOTE: both opposite sides are parallel, and 2 angles are acute and 2 are obtuse.

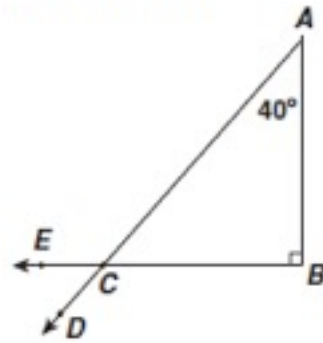
- a. Square
- b. Rectangle
- c. Parallelogram
- d. Trapezoid

29. Peter is looking at a quadrilateral in which all four sides are congruent and that has 2 pairs of congruent angles, none of which measures 90 degrees. What type of quadrilateral is Peter looking at?

- a. A rhombus
- b. A square
- c. A rectangle
- d. A parallelogram

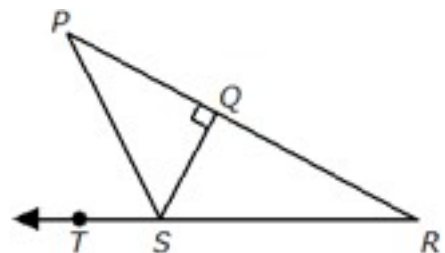
30. In the figure to the right, triangle ABC is a right triangle and the measure of Angle A equals 40 degrees. **What is the measure of angle ECD?**

- a. 40 degrees
- b. 50 degrees
- c. 130 degrees
- d. 140 degrees



31. In the figure to the right, $\angle PSQ = 66^\circ$ and $m\angle R = 27^\circ$. What is $m\angle PST$?

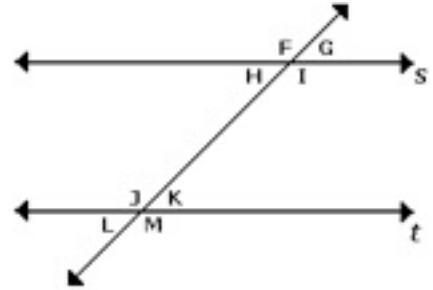
- a. 51 degrees



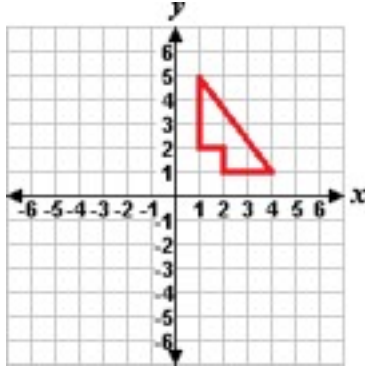
- b. 129 degrees
- c. 93 degrees
- d. 48 degrees

32. If the measure of $\angle H$ equals 74° , what is the measure of $\angle G$?

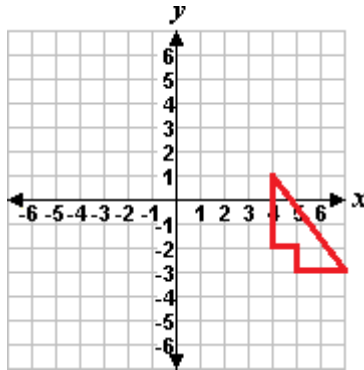
- a. 106 degrees
- b. 74 degrees
- c. 16 degrees
- d. 101 degrees



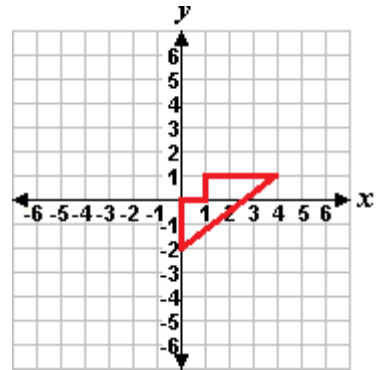
Which graph below – W, X, Y or Z shows a rotation of the object in GRAPH 1 about point (4,1)?



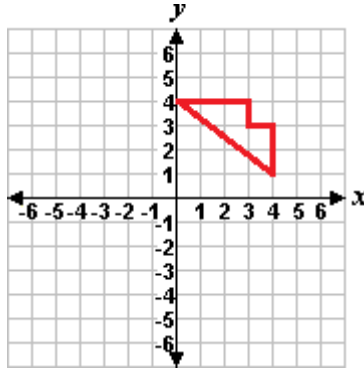
GRAPH 1



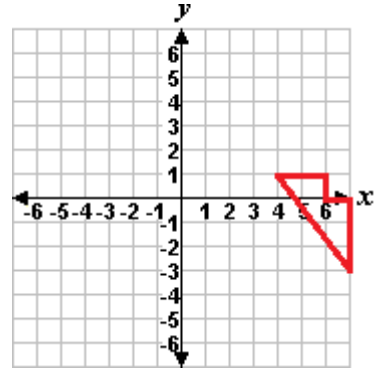
W.



X.



Y.

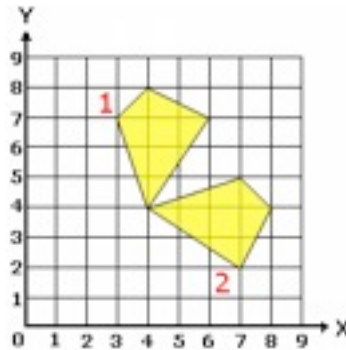


Z.

- a. W
- b. X
- c. Y
- d. Z

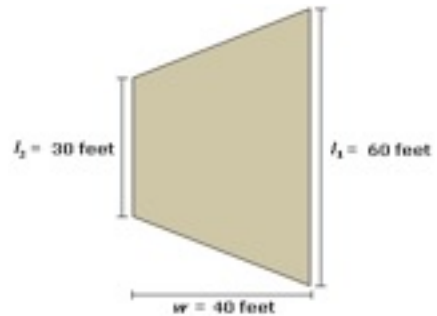
32. What type of transformation is needed to go from Figure 1 to Figure 2?

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



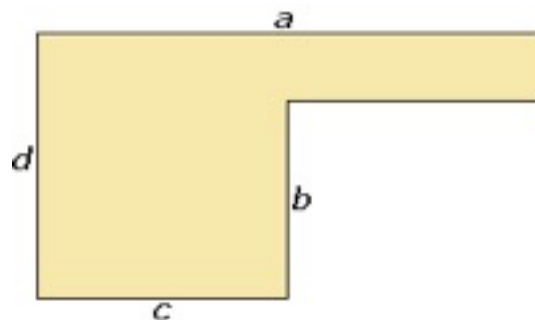
33. A music school is placing a string of floor lighting around the edge of the concert hall. The concert hall is the shape of an isosceles trapezoid, as shown in the diagram to the right. **About how much floor lighting will be needed to complete the project? (round to the nearest hundredth.)**

- a. 170 feet
- b. 255.44 feet
- c. 175.44 feet
- d. 212.72 feet



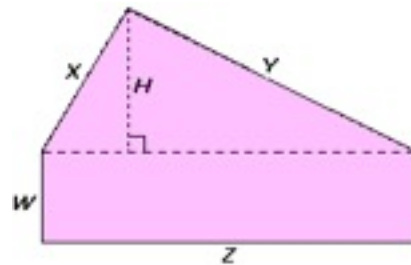
34. Abbey is getting new carpet in her living room and hallway. The diagram shows the two together. **If $a = 38\text{ft}$, $c = 19\text{ft}$ and $d = 18\text{ft}$, what is the area of the living room and hallway together?**

- a. 178 ft^2
- b. 874 ft^2
- c. 418 ft^2
- d. 89 ft^2



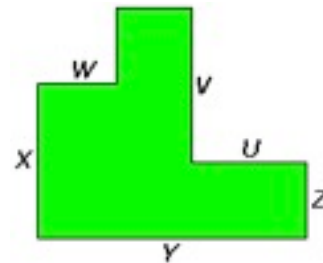
35. Mandy has a triangular window in her bedroom. She needs to cover it with cloth so the light doesn't shine directly in her eyes in the morning. The triangle has a base of 3 feet and height of 4 feet. How many square feet of material does Mandy have to buy in order to cover the window?
- 12 ft² of material
 - 6 ft² of material
 - 7 ft² of material
 - 24 ft² of material

36. If $Y = 18$ inches, $Z = 27$ inches, $H = 9$ inches and $W = 10$ inches, what is the area of the object?



- 513 square inches
- 540 square inches
- 252 square inches
- 391.5 square inches

37. If $U = 6$ units, $V = 8$ units, $W = 4$ units, $X = 5$ units, $Y = 13$ units, and $Z = 4$ units, what is the area of the object?



- 65 square units
- 59 square units
- 80 square units
- 143 square units

38. Tomas used a string with a piece of chalk tied to one end to draw a circle on the sidewalk. He held one end of the string on the sidewalk and then drew the circle

using the chalk tied to the other end. What is the circumference of Tomas' circle if the string is 6 feet?

- a. 9.42 ft
- b. 18.84 ft
- c. 37.68 ft
- d. 113.04 ft

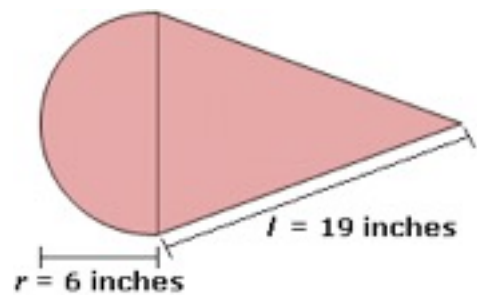
39. If the circumference of the Astrodome in Houston, Texas is 2,230 feet, what is the area? (use $3.14 = \pi$)

- a. 4,460 ft²
- b. 1,114.7 ft²
- c. 1,582,847 ft²
- d. 395,718.5 ft²

40. A sign maker is painting a white border on the outside of a sign for an ice cream shop. The sign is made of a semi-circle and an isosceles triangle, as shown in the diagram to the right.

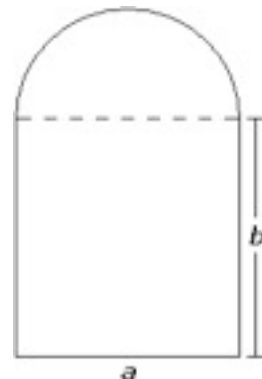
What will be the length of the border?

- a. $38 + 6\pi$ inches
- b. 50π inches
- c. 44π inches
- d. $19 + 12\pi$ inches



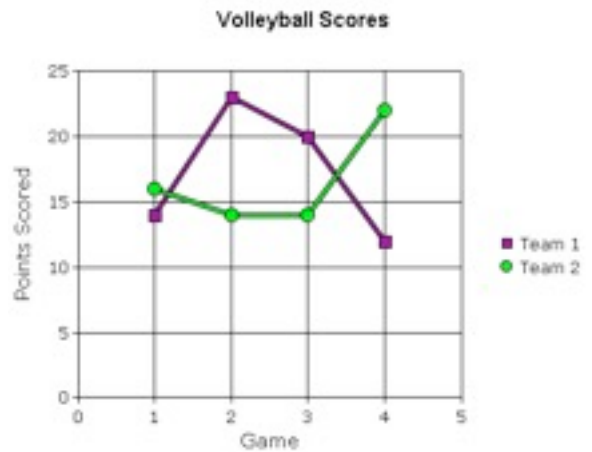
41. Steve is installing a new window. A diagram of the window is shown below. If $a = 33$ in, and $b = 44$ in, which of the following is closest to the area of the window?

- a. 1,452 in²
- b. 2,307 in²



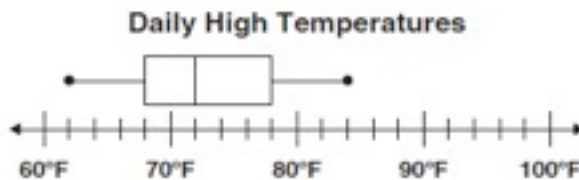
- c. 1,879.65 in²
- d. 2,904 in²

42. The graph below shows the number of points scored by two different volleyball teams in the last four games they played against each other. Based on the information in the graph, which of the following statements is true?



- a. Overall, Team 2 scored more points than Team 1.
- b. The difference in points in Game 1, Team 1 scored twice as many points as Team 2.
- c. In Game 1, Team 1 scored twice as many points as Team 2.
- d. The difference in total points scored by both teams is less than 5.

43. The box-and-whisker plot below represents the daily high temperatures at a beach in April. **What was the median daily high temperature?**



- a. 68 degrees
- b. 72 degrees
- c. 78 degrees
- d. 84 degrees

44. Summer is having a pool party at her house. In the ice chest, there are 9 bottles of soda, 11 bottles of lemonade, and 12 bottles of water. If she randomly grabs a bottle from the ice ches, what is the probability it is either a soda or lemonade?

- a. 3/8
- b. 5/8

- c. $\frac{99}{1024}$
- d. $\frac{9}{64}$

45.

Kathleen conducted an experiment in which she drew marbles from a bag one of a time and replaced the marble after each draw. The results of her experiment are shown in the table.

Marble Color	Number of Times Drawn
Red	10
Blue	4
Green	6
Purple	2
Yellow	8

According to the results from Kathleen's experiment, what is the probability that she would draw a yellow marble and then draw another yellow marble, if the first marble is replaced before drawing the second marble?

- a. $\frac{16}{225}$
- b. $\frac{28}{435}$
- c. $\frac{32}{435}$

46. $\frac{4}{225}$

A snack bar sells 5 items as shown in the table below. **Which pair of items could be added to the menu without changing the mean price?**

- a. Banana (\$0.60) and Soda (\$0.75)
- b.
- c. Banana (\$0.60) and Cookie (\$0.50)
- d. Energy Bar (\$0.45) and Cookie (\$0.50)

Snack Bar Menu	
Chips	\$0.50
Juice	\$0.80
Apple	\$0.60
Candy	\$0.70
Gum	\$0.40

47. Energy Bar (\$0.45) and Soda (\$0.75)

The table shows the number of points Kevin Durant scored per game in the playoffs.

Thunder Basketball: Kevin Durant	
Playoff Game	Points Scored
1	30
2	22
3	19
4	34
5	28

If the mean number of points scored for all playoff games is 27, how many points did Kevin Durant score in game 7?

- a. 18
- b. 27
- c. 29
- d. 30

48. Paul's first 7 quizzes had a mean score of 80%. If he scores a 100% on his next quiz, what will be his mean quiz score for these 8 quizzes?

- a. 82.5%
- b. 90%
- c. 85%
- d. 87

Assessment: 7th Grade Math		Date Created: 6.20.2011	
Created By: Amber Stangl			
LEARNING GOALS	<u>Alignment</u> <i>aligned to which questions on the assessment</i>	<u>Coverage</u> <i># of questions on the assessment</i>	<u>Total Weight</u> <i>Overall % of total OCCT/test coverage</i>
.1 Algebraic Reasoning: Patterns and Relationships: Identify, describe, and analyze functional relationships (linear and non-linear) between two variables (e.g. as the value of x increases on a table, do the values of y increase or decrease, identify a positive rate of change on a graph and compare it to a negative rate of change)	1-5	5	10%
1.2 Algebraic Reasoning: Patterns and Relationships: Write and solve two-step equations with one variable using number sense, the properties of operations, and the properties of equality.	6-10	5	10%

1.3 Algebraic Reasoning: Patterns and Relationships, Inequalities: Model, write, solve, and graph one-step linear inequalities with one variable.	11-15	5	10%
2.1a Number Sense and Operations: Compare and order positive and negative rational numbers 2.1b Number Sense and Operations: Build and recognize models of perfect squares to find their square roots and estimate the square root of other numbers (e.g., the square root of 12 is between 3 and 4)	16-20	5	10%
2.2a Number Sense and Operations: Solve problems using ratios and proportions 2.2b Number Sense and Operations: Solve percent application problems (e.g., discounts, tax, finding the missing value of percent/part/whole) 2.2c Number Sense and Operations: Simplify numerical expressions with integers, exponents, and parentheses using order of operations	21-26	6	22%
3.1 Geometry: Classify regular and irregular geometric figures including triangles and quadrilaterals according to their sides and angles.	27-29	3	4-6%
3.2 Geometry: Identify and analyze the angle relationships formed by parallel lines cut by a transversal (e.g., alternate interior angles, alternate exterior angles, adjacent and vertical angles)	30-32	3	4-6%
3.3 Geometry: Construct geometric figures and identify geometric transformations on the rectangular coordinate plane (e.g., rotations, translations, reflections, magnifications, dilations, etc.)	33-34	2	4-6%
4.1 Measurement: Develop and apply the formulas for perimeter and area of triangles and quadrilaterals to solve problems.	35-39	5	10%
4.2 Measurement: Apply the formula for the circumference and area of a circle to solve problems.	40-41	2	4%
4.3 Measurement: Find the area and perimeter of composite figures to solve application problems	42-43	2	4%

5.1 Data Analysis: Compare, translate, and interpret between displays of data (e.g., multiples sets of data on the same graph, data from subsets of the same population, combinations of diagrams, tables, charts, and graphs	43-44	2	4%
5.2 Data Analysis, Probability: Determine the probability of an event involving "or," "and," or "not" (e.g., on a spinner with one blue, two red and two yellow sections, what is the probability of getting a red or yellow?)	45-46	2	4%
5.3 Data Analysis, Central Tendency: Compute mean, median, mode and range for data sets and understand how additional data or outliers in a set may affect the measures of central tendency.	47-49	3	6%

Answer Key	
QUESTION	ANSWER
1	D
2	A
3	B
4	C
5	C
6	6A: c, 6B: a
7	C
8	B
9	C
10	D
11	C
12	B
13	C
14	C
15	A
16	D
17	D
18	B
19	C
20	B
21	A
22	A
23	C
24	D
25	C
26	C
27	B
28	C
29	A
30	B
31	A
32	B
33	D
34	B
35	C
36	C

37	B
38	D
39	C
40	C
41	D
42	A
43	C
44	D
45	B
46	B
47	A
48	D
49	C

Student Answer Document

Answer Key	
QUESTION	ANSWER
1	
2	
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