Revised April 2010

8th Grade Math Exit Assessment

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

Part A

____ **1.** What is 4^{-3} equal to?

A $\frac{1}{12}$

B $\frac{1}{4^3}$

C -12

D 64

____ **2.** What is 5^0 equal to?

A 5

B 0

C $\frac{1}{5}$

D 1

____ **3.** What is the percent increase from 19 to 27 to the nearest percent?

A 30%

B 42%

C 22%

D 46%

____ **4.** A tarp shaped like a square is 144 square feet. What is the length of each side?

A 6 ft.

B 12 ft.

C 18 ft.

D 24 ft.

____ **5.** The $\sqrt{17}$ is between:

A 4 and 5

B 8 and 9

C 17 and 18

D 288 and 290

____ **6.** Which number is irrational?

A .25

B .166666…

C $\frac{1}{7}$

D $\sqrt{3}$

____ **7.** If the volume of a cube is 343 cubic centimeters, what is the length of a side of the cube?

A 7 cm

B 10 cm

C 101 cm

D 114.3 cm

____ **8.** The number $\frac{1}{4}$ is which type of number?

A an integer

B a rational number

C an irrational number

D not a real number

____ **9.** Estimate the cube root of 700.

A 233.33

B 26.46

C 8.88

D 5.14

____ **10.** Sally bought a shirt that is normally $15.55, but is on sale for 25% off. What will be the sale price of the shirt?

A $11.66

B $15.30

C $3.89

D $19.44

____ **11.** When Mick turned 15, he deposited $1,200 in a savings account with an interest rate of 7% that is compounded annually. How much money will Mick have when he turns 35?

A $84

B $2,880

C $4,644

D $12,812

____ **12.** Sweatshirts were priced originally at $42. The first week of the sale they were discounted 25%. Last week, they were discounted an additional 10% off the sale price. Find the new price of the sweatshirts.

A $28.35

B $27.30

C $14.70

D $7.00

____ **13.** Ali Gebra wants to calculate her overall grade. The categories are weighted according to the table below and her scores are indicated in the table.

Category	Points earned/ possible points	% of overall grade
Homework	75/100	20%
Quizzes	153/180	30%
Tests	140/200	50%

What is her overall grade?

A 76.7%

B 75.5%

C 75%

D 74.8%

____ **14.** A pound of gummy worms cost $2.53. How much does 4.3 pounds cost?

A $0.59

B $1.70

C $6.83

D $10.88

____ **15.** Given $y = x^2$ describe what happens to y if x is tripled?

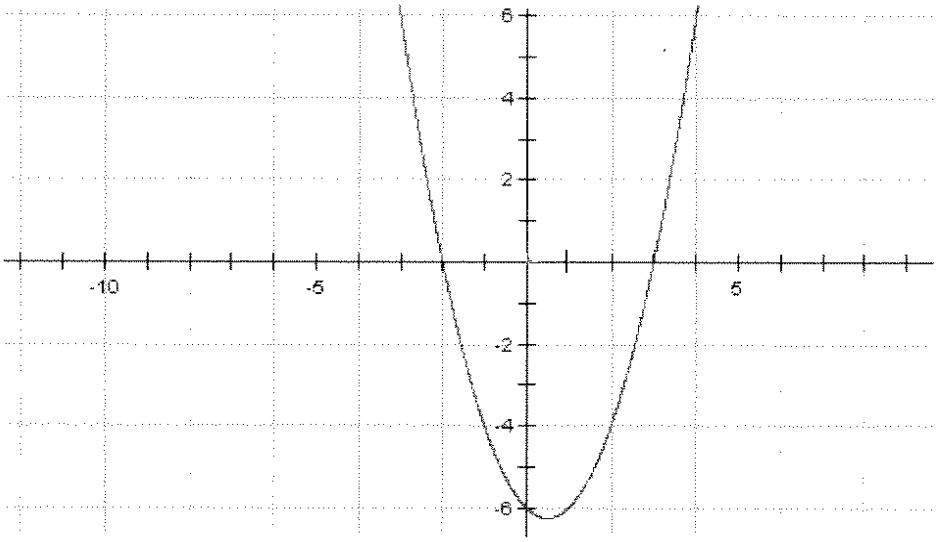
A 3 times larger

B 4 times smaller

C 9 times smaller

D 9 times larger

____ **16.** Choose the equation whose graph is shown here:



A $y = (x + 2)(x – 3)$

B $y = (x - 2)(x + 3)$

C $y = (x - 6)(x + 3)$

D $y = (x + 6)(x + 2)$

____ **17.** If $x^2 = 64$ then x =

A 8

B 8 and -8

C 16

D 16 and -16

____ **18.** Factor $x^2 – 10x + 16$

A $(x – 10)(x + 16)$

B $(x – 8)(x + 2)$

C $(x – 4)(x – 4)$

D $(x – 8)(x – 2)$

____ **19.** Which of the following is the solution set of $4x + 8 < 20$?

A $x < 2$

B $x < 3$

C $x < 7$

D $x < 8$

____ **20.** Miss Smith's fourth grade class is selling brownies in order to raise $150 for charity. the table below.

What type of relationship exists between the number of brownies that need to be sold and the price of each brownie as shown in the table?

Price of one brownie	$0.50	$0.75	$1.00	$1.25
Number of brownies that need to be sold	300	200	150	120

A Exponential

B Quadratic

C Linear

D Inverse

____ **21.** Which equation would fit this data?

x	**y**
-2	-24
-1	-3
0	0
1	3
2	24
3	81

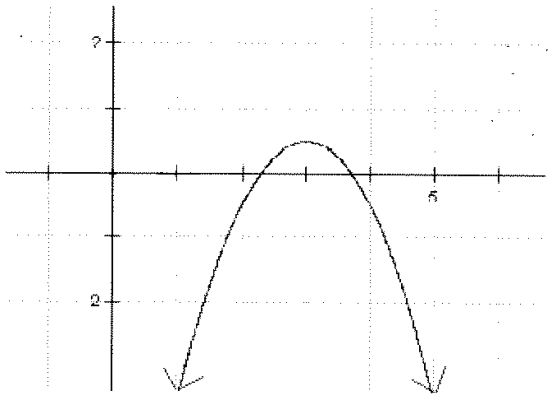
A $y = 3x$

B $y = 3x^2$

C $y = 3x^3$

D $y = \frac{3}{x}$

____ **22.** What type of graph/function does the picture below represent?



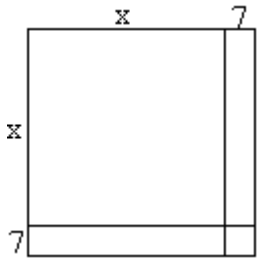
A quadratic

B linear

C cubic

D exponential

____ **23.** Nathan and Laura came up with two different correct ways to represent the area of the entire square. Nathan wrote $(x + 7)(x + 7)$. Which expression did Laura give?



A $2x + 14$

B $14x$

C $x^2 + 49$

D $x^2 + 14x + 49$

____ **24.** The height of a toy rocket launched straight up with an initial velocity of 48 feet per second is given by $h = -16t^2 + 48t$. The time t is in seconds. What is the height after 2 seconds?

A 1120 feet

B 32 feet

C 160 feet

D 0 feet

____ **25.** What is the solution to the system: $y = 3x + 2$

$y = 5x - 8$

A (5, 17)

B (2, -8)

C (17, 5)

D (-5, -13)

____ **26.** What is the solution to the system: $2x - 3y = 16$

$5x + 3y = 19$

A no solution

B (5,-2)

C infinitely many solutions

D (-5, 2)

____ **27.** Which is a solution of $y \geq -2x + 5$?

A (1, -9)

B (1, -3)

C (-1, 3)

D (-1, 9)

____ **28.** Tickets for a concert are $40 for main-floor seats and $25 for upper-level seats. A total of 2000 concert tickets were sold. The ticket sales were $62,000. Determine how many main-floor and upper-level tickets were sold.

A 1200 main-floor tickets and 800 upper-level tickets

B 400 main-floor tickets and 1840 upper-level tickets

C 800 main-floor tickets and 1200 upper-level tickets

D 1000 main-floor tickets and 1000 upper-level tickets

Part B

____ **29.** Joe Bean regularly takes a short-cut across Mr. Wilson's lawn instead of walking on the sidewalk on his way home from school. How much distance is **saved** by Joe cutting across the lawn?

A 5 feet

B 10 feet

C 25 feet

D 35 feet

____ **30.** A 12 foot ladder is leaning against the wall. If the bottom of the ladder is placed 3 feet from the base of the wall, how far up the wall can it reach?

A 11.6 feet

B 12.4 feet

C 9 feet

D 15 feet

____ **31.** Find the distance between (-2, 5) and (1, 9). Use the Distance Formula

A 3 units

B 4 units

C 5 units

D 7 units

____ **32.** A circular landing pad for a helicopter is 35 feet across. What is the approximate area of the landing pad?

A 110.0 ft^2

B 962.1 ft^2

C 1,225 ft^2

D 3,846.5 ft^2

____ **33.** Find the circumference of a circle with diameter 27.5 meters.

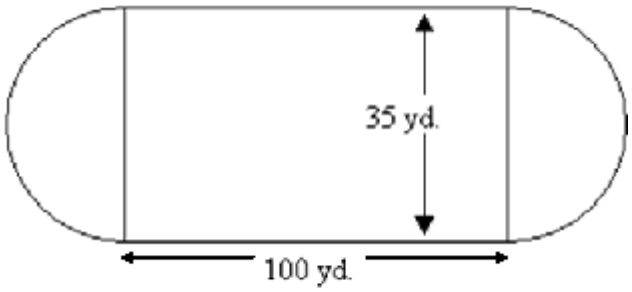
A 80 m

B 86.4 m

C 172.8 m

D 593.9 m

____ **34.** Alex wants to purchase fertilizer for the grass on the field below. In order to decide how much fertilizer to purchase, he must find the area of the field. Use what you know about the area of circles and rectangles to find the area of this whole figure. (Round to the nearest whole square yard.)



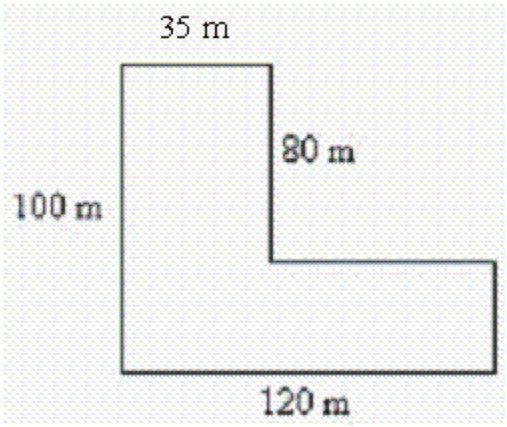
A 3,500 yd^2

B 3,610 yd^2

C 4,462 yd^2

D 7,347 yd^2

____ **35.** Jamie decided to walk around the outside of the park. The park is pictured below. How far did she walk?



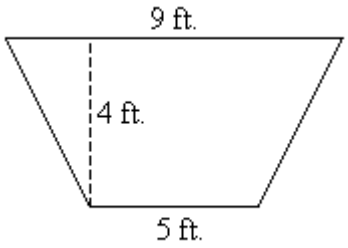
A 320 m

B 440 m

C 1,200 m

D 1,500 m

____ **36.** Andrew has a garden shaped like the figure below. What is the area of his garden?



A 28 ft^2

B 36 ft^2

C 45 ft^2

D 55 ft^2

____ **37.** Jose wants to install a triangular window. How much glass does he need if the space has a base of 4 feet and a height of 5 feet?

A 5 ft^2

B 9 ft^2

C 10 ft^2

D 20 ft^2

____ **38.** Determine the approximate volume of a sphere with diameter 75 meters.

A 165,586 m^3

B 220,893 m^3

C 662,344 m^3

D 1,766,250 m^3

____ **39.** Find the volume of a pyramid with a rectangular base if the base of the pyramid is 3 yards long and 5 yards wide and the pyramid is 7 yards high.

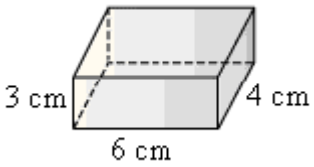
A 35 yd^3

B 70 yd^3

C 105 yd^3

D 140 yd^3

____ **40.** Find the surface area of the box below



A 13 cm^2

B 54 cm^2

C 72 cm^2

D 108 cm^2

____ **41.** Determine the surface area of a cylinder that is 17.5 meters high and whose bases have a radius of 6 meters.

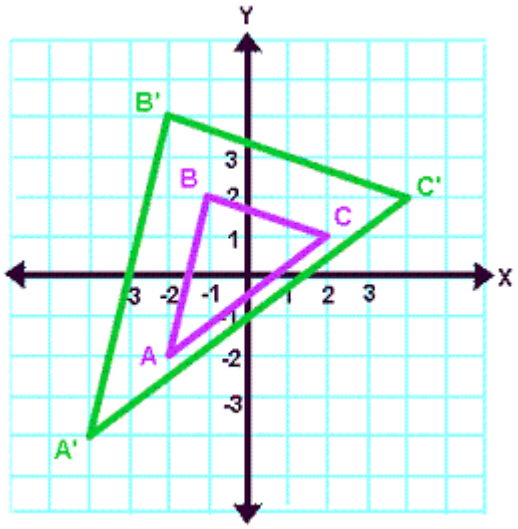
A 105 m^2

B 330 m^2

C 886 m^2

D 1,779 m^2

____ **42.** What is the scale factor of the dilation (with center at the origin) shown below?



A -2

B 2

C $\frac{1}{2}$

D $-\frac{1}{2}$

____ **43.** A rectangle with one vertex at (-4, 8) is reflected over the x-axis. What are the coordinates of the image of that vertex?

A (4,-8)

B (-4, -8)

C (-4, 8)

D (4,8)

____ **44.** The table below shows population data for 10 South American countries. If you were reporting these date in a newspaper article, which measure would you use and why?

Country	Population (millions)
Argentina	32
Bolivia	7
Brazil	150
Chile	13
Colombia	33
Ecuador	10
Paraguay	5
Peru	22
Uruguay	3
Venezuela	19

A The mean of 29.4 million because it is the most representative.

B The mean of 29.4 million because it is close to most of the populations.

C The median of 16 million because it is close to most of the populations.

D The mode because it is the most common population is the most accurate

____ **45.** Tina surveyed her classmates about their favorite type of television show 21of the 25 preferred reality shows. Respond to the statement: "More that two-thirds of television viewers prefer reality shows."

A The statement is not misleading

B 21 of 25 is not more than two-thirds of her class.

C The sample is biased because it includes only people of Tina's age.

D The sample size is too large.

____ **46.** An experiment consists of rolling a number cube. Use the results in the table to find the experimental probability of rolling an even number.

Outcome	Frequency
1	3
2	6
3	2
4	7
5	4
6	5

A $\frac{2}{3}$

B $\frac{2}{9}$

C $\frac{7}{20}$

D $\frac{5}{22}$

____ **47.** Suppose Brooke tosses three quarters. Find the probability that all three will show heads.

A $\frac{7}{8}$

B $\frac{1}{8}$

C $\frac{3}{4}$

D $\frac{2}{3}$

____ **48.** An ice cream sundae at Bliss Dairy is made from one flavor of ice cream and one topping. For ice cream flavors, you can choose from chocolate, vanilla and strawberry. For toppings you can have hot fudge, butterscotch or caramel. Find the number of different sundaes that are possible.

A 6

B 8

C 9

D 18

____ **49.** A bag contains 6 white balls, 2 red balls and 5 green balls. A White ball is randomly selected without replacing it. Then a green ball is selected from the bag. Tell whether this event is independent or dependent. Explain your answer.

A Dependent; there are fewer balls to select from the second time.

B Independent; the first ball does not affect the sample space for the second one.

C Dependent; the first ball does not affect the sample space for the second one.

D Independent; there are fewer balls to select from the second time.

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8th Grade Math Exit Assessment
Answer Section

MULTIPLE CHOICE

1.	ANS: B	PTS: 1	STA: N.ME.08.02
2.	ANS: D	PTS: 1	STA: N.ME.08.02
3.	ANS: B	PTS: 1	STA: N.MR.08.07
4.	ANS: B	PTS: 1	STA: N.ME.08.01
5.	ANS: A	PTS: 1	STA: N.FL.08.06
6.	ANS: D	PTS: 1	STA: N.ME.08.04
7.	ANS: A	PTS: 1	STA: N.ME.08.01
8.	ANS: B	PTS: 1	STA: N.ME.08.03
9.	ANS: C	PTS: 1	STA: N.FL.08.05
10.	ANS: A	PTS: 1	STA: N.MR.08.08
11.	ANS: C	PTS: 1	STA: N.FL.08.09
12.	ANS: A	PTS: 1	STA: N.FL.08.09
13.	ANS: B	PTS: 1	STA: N.MR.08.10
14.	ANS: D	PTS: 1	STA: N.MR.08.11
15.	ANS: D	PTS: 1	STA: A.PA.08.02
16.	ANS: A	PTS: 1	STA: A.RP.08.05
17.	ANS: B	PTS: 1	STA: A.FO.08.08
18.	ANS: D	PTS: 1	STA: A.FO.08.08
19.	ANS: B	PTS: 1	STA: A.FO.08.12
20.	ANS: D	PTS: 1	STA: A.RP.08.01
21.	ANS: C	PTS: 1	STA: A.RP.08.01
22.	ANS: A	PTS: 1	STA: A.RP.08.01
23.	ANS: D	PTS: 1	STA: A.FO.08.07
24.	ANS: B	PTS: 1	STA: A.FO.08.09
25.	ANS: A	PTS: 1	STA: A.FO.08.11
26.	ANS: B	PTS: 1	STA: A.FO.08.11
27.	ANS: D	PTS: 1	STA: A.FO.08.12
28.	ANS: C	PTS: 1	STA: A.FO.08.13
29.	ANS: B	PTS: 1	STA: G.GS.08.01
30.	ANS: A	PTS: 1	STA: G.GS.08.01
31.	ANS: C	PTS: 1	STA: G.LO.08.02
32.	ANS: B	PTS: 1	STA: G.SR.08.03
33.	ANS: B	PTS: 1	STA: G.SR.08.03
34.	ANS: C	PTS: 1	STA: G.SR.08.04
35.	ANS: B	PTS: 1	STA: G.SR.08.04
36.	ANS: A	PTS: 1	STA: G.SR.08.05
37.	ANS: C	PTS: 1	STA: G.SR.08.05
38.	ANS: B	PTS: 1	STA: G.SR.08.06
39.	ANS: A	PTS: 1	STA: G.SR.08.06
40.	ANS: D	PTS: 1	STA: G.SR.08.07
41.	ANS: C	PTS: 1	STA: G.SR.08.07

42.	ANS: B	PTS: 1	STA: G.TR.08.09
43.	ANS: B	PTS: 1	STA: G.TR.08.10
44.	ANS: C	PTS: 1	STA: D.AN.08.01
45.	ANS: C	PTS: 1	STA: D.AN.08.02
46.	ANS: A	PTS: 1	STA: D.PR.08.03
47.	ANS: B	PTS: 1	STA: D.PR.08.04
48.	ANS: C	PTS: 1	STA: D.PR.08.04
49.	ANS: A	PTS: 1	STA: D.PR.08.06