2018 – 19 TAME Middle School Divisional Practice Mathematics Test

(1) Three hundred forty-five added to one hundred sixteen is equal to what value?

A) 451 B) 461 C) 441 D) 351

(2) $7.5 \times 240 =$

A) 180 B) 18,000 C) 1,800 D) 18

(3) Three square yards is equal to how many square feet?

A) $\frac{1}{4}$ B) 12 C) 9 D) 27

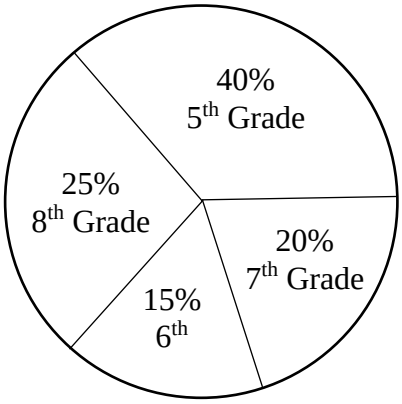
(4) $0.0666 \ldots + 0.2 =$

A) $\frac{4}{15}$ B) $\frac{2}{25}$ C) $\frac{2}{125}$ D) $\frac{2}{15}$

(5) $14 - |3 - 2|5 - 7|| =$

A) 15 B) 16 C) 13 D) 14

For problems 6 – 9, please use the graph below.



(6) One day at a large theme park in North Texas, 600 students were surveyed for the resulting graph above. How many students were 5^{th} or 6^{th} graders?

A) 33 B) 240 C) 90 D) 330

(7) One day at a large theme park in North Texas, 600 students were surveyed for the resulting graph above. How many more students were 5^{th} than 8^{th} graders?

A) 90 B) 18,000 C) 1,800 D) 330

(8) One day at a large theme park in North Texas, 600 students were surveyed for the resulting graph above. If all the students paid \$12.50 per park entrance ticket, how much money was made in 5^{th} grader sales?

A) \$330 B) \$500 C) \$3,000 D) \$5,000

(9) One day at a large theme park in North Texas, 600 students were surveyed for the resulting graph above. If exactly forty percent of the 8^{th} and 7^{th} grade students were girls, how many did this amount to?

A) 108 B) 180 C) 270 D) 96

(10) $3\frac{5}{8} + 5\frac{3}{4} =$

A) $8\frac{2}{3}$ B) $9\frac{3}{8}$ C) $8\frac{1}{4}$ D) $9\frac{2}{3}$

(11) What is the sum of the unique prime factors of 420?

A) 42 B) 17 C) 19 D) 20

(12) $9\frac{1}{3} \div \frac{2}{3} =$

A) 9 B) 10 C) $14\frac{1}{3}$ D) 14

(13) How many proper subsets can be made with set: {A, U, S, T, I, N}?

A) 64 B) 63 C) 36 D) 35

(14) Andrea took a 25-foot long string and tied to the top of a 15-foot tall wall of a building. If she takes the other end and stretches it tight, how far from the wall will that end touch the level ground?

A) 20 ft. B) 10 ft. C) 40 ft. D) 15 ft.

(15) If 480 gallons of fuel are being burned each minute by a rocket, how many quarts of fuel are being burned each second?

A) 64 quarts/sec. B) 128 quarts/sec C) 32 quarts/sec. D) 2 quarts/sec.

(16) What is the slope of a straight line parallel to the line with the equation: $4x^2 - 6x + 9 = 0$?

A) $\frac{2}{3}$ B) $\frac{4}{9}$ C) $\frac{3}{2}$ D) $-\frac{2}{3}$

(17) An equilateral triangle is joined to a regular pentagon on a single side to form a polygon. If each side, of the two regular polygons, is 20 centimeters (cm) in length, what is the perimeter of the single polygon?

A) 180 cm B) 160 cm C) 140 ft. D) 120 cm

(18) Mackenzie created the stem-and-leaf-plot to the right with the number of 9-hole golf scores she achieved for a week of practice. What is mean of those 9-hole scores?

A) 31

B) $31\frac{1}{2}$

C) 32

D) $32\frac{1}{2}$

9–Hole Golf Scores

2	5 6 7 9
3	0 1 2 3
4	0 2

(19) The sum of three numbers is 19. If the third number is 1 greater than the sum of first two, while the sum of the first and third numbers is 1 greater than 2 times the second number, what is the second number?

A) 3 B) 6 C) 10 D) 9

(20) Wesley has 18 coins consisting of dimes and nickels. What is the largest number of dimes he can have if the value of the nickels is greater than that of the dimes?

A) 10 B) 7 C) 5 D) 4

(21) The Gonzales family has three different types of ice creams, two different types of cones and three different types of sprinkles. How many different types of desserts, containing one of each item are possible?

A) 18 B) 12 C) 8 D) 6

(22) A regular octagon has a perimeter of $48\frac{5}{8}$ centimeters (cm). What is the length of one of the sides?

A) 6 cm B) $6\frac{1}{2}$ cm C) $6\frac{5}{32}$ D) $6\frac{5}{64}$

(23) Twenty-four percent of fifteen is what amount?

A) 36 B) $3\frac{3}{5}$ C) $62\frac{1}{2}$ D) $1\frac{3}{5}$

(24) Noah was given a math assignment to write an equation that would predict a temperature increase, T, during the morning given an initial temperature, T_i, a rate of temperature increase, $\boldsymbol{k}$, and the time, t, for the increase. Which of the following could be an equation used to make the prediction?

A) $T = T_i - \boldsymbol{k}t$ B) $T = \frac{T_i}{\boldsymbol{k}t}$ C) $T = \boldsymbol{k}t + T_i$ D) $T = \boldsymbol{k}(T_i + t)$

(25) Kenzie is 48 inches tall while Wes is 36 inches tall. If Wes' shadow is 12 inches long, how long is Kenzie's shadow?

A) 15 inches B) 16 inches C) 18 inches D) 9 inches

(26) While riding the metro train Liz noticed that she traveled 4 miles in 20 minutes. Assuming a constant speed, how long should it take her to travel 30 miles?

A) $2\frac{1}{2}$ hours B) $2\frac{2}{3}$ hours C) 3 hours D) $3\frac{2}{3}$ hours

(27) If the area of a circle is 36π, what is its circumference?

A) 6π B) 12π C) 24π D) 36π

(28) The proposed budget for a NASA probe project is \$125 million. What is this amount in scientific notation?

A) 1.25×10^6 B) 1.25×10^7 C) 1.25×10^8 D) 1.25×10^9

(29) Set A = {A, U, S, T, I, N}, Set B = {T, R, A, V, I, S} and set C = {T, E, X, A, S}. What is the number of elements in A∩B∩C?

A) 3 B) 4 C) 5 D) 6

(30) $-4^2 - 3 \times 4 =$

A) 4 B) 52 C) –76 D) –28

For questions 31 – 35, please use the table below.

Time	Temperature (°F)
12:00 PM	87°
1:00 PM	91°
2:00 PM	92°
3:00 PM	95°
4:00 PM	95°

(31) What is mode of the temperatures listed in the above table?
A) 92°F B) 8°F C) 91.5°F D) 95°F

(32) What is mean of the temperatures listed in the above table?
A) 92°F B) 8°F C) 91.5°F D) 95°F

(33) Based on the data from the above data table, what would you expect the temperature to be for 2:30 PM?
A) 92°F B) 93.5°F C) 91.5°F D) 94.5°F

(34) What is range of the temperatures listed in the above table?
A) 92°F B) 8°F C) 91.5°F D) 95°F

(35) What is the mathematical difference between the mean and median of the temperatures listed in the above table?
A) 92°F B) 8°F C) 91.5°F D) 0°F

(36) A circle with an area of 64π is just barely touching the outside of another circle with circumference of 16π. What is the length of the longest line segment that can touch both circles?
A) 12 B) 16 C) 24 D) 32

(37) If the sales tax on certain objects is $6\frac{1}{4}\%$, how much does an object that costs \$48 cost with sales tax included?
A) \$49.50 B) \$51.00 C) \$51.50 D) \$52.00

(38) What is the volume of a cube that has a surface area of 600?
A) 100 B) 360 C) 1,000 D) 10,000

(39) A picture 15 inches wide and 20 inches long is enclosed in a frame of uniform width and whose area is two-thirds that of the picture. What is the width of the frame?
A) $2\frac{1}{2}$ inches B) $4\frac{1}{4}$ inches C) $4\frac{1}{2}$ inches D) 5 inches

(40) Andy walked at the rate of 2 miles per hour (mph) and then rode a bicycle back at the rate of 10 mph. If the entire trip took 3 hours, how far did he walk?
A) $2\frac{1}{2}$ miles B) $3\frac{3}{4}$ miles C) $4\frac{1}{2}$ miles D) 5 miles

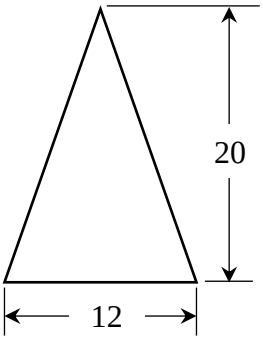
(41) Dan's take-home paycheck each month amounts to $4200. Using the table to the right, what is the closest percentage to how much he does not spend each month?

A) 95%
B) 21%
C) 10%
D) 5%

Food	$600
Mortgage	$1800
Entertainment	$800
Fuel/car payment	$800

Monthly Expenditures

(42) What is the area of the isosceles triangle to the right?



A) 60
B) 120
C) 240
D) 300

(43) $1 + 2 + 3 + \ldots + 16 =$

A) 256 B) 240 C) 136 D) 120

(44) A black bag contains 6 blue marbles, 10 red marbles and 4 green marbles. What is the probability of randomly drawing a blue marble?

A) $\frac{3}{5}$ B) $\frac{7}{10}$ C) $\frac{2}{3}$ D) $\frac{3}{10}$

(45) What is the sum of the prime numbers that are between 10 and 20?

A) 36 B) 43 C) 56 D) 60

(46) What is the next number in the sequence: 1, 8, 27, … ?

A) 16 B) 48 C) 64 D) 125

(47) After finishing 10 problems Miguel was 20 percent of the way through the test. How many problems were on the test?

A) 25 B) 50 C) 100 D) 200

(48) $8\frac{1}{3}$ % of 240 is what number?

A) 12 B) 18 C) 20 D) 40

(49) If a quarter is tossed four times, what is the probability that it will be tails every time?

A) $\frac{1}{16}$ B) $\frac{1}{4}$ C) $\frac{1}{8}$ D) $\frac{1}{2}$

(50) How many digits does $2^{18} \times 5^{18}$ have?

A) 18 B) 19 C) 36 D) 72

2018 – 2019 TAME Middle School Practice Divisional Mathematics Test Answer Key

(1) B
(2) C
(3) D
(4) A
(5) C
(6) D
(7) A
(8) C
(9) A
(10) B
(11) B
(12) D
(13) B
(14) A
(15) C
(16) C
(17) D
(18) B
(19) B
(20) C
(21) A
(22) D
(23) B
(24) C
(25) B

(26) A
(27) B
(28) C
(29) A
(30) D
(31) D
(32) A
(33) B
(34) B
(35) D
(36) D
(37) B
(38) C
(39) A
(40) D
(41) D
(42) B
(43) C
(44) D
(45) D
(46) C
(47) B
(48) C
(49) A
(50) B