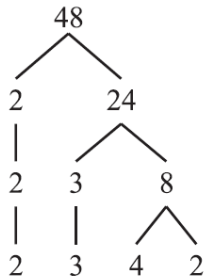
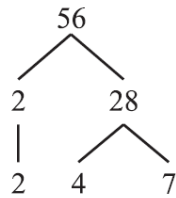


2018 TAME Middle School Mathematics Test – Official Divisional

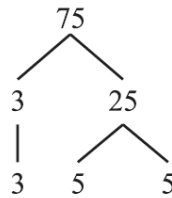
- (1) $2017 + 2018 + 2019 =$
 A) 6054 B) 6154 C) 6045 D) 6145
- (2) $5.13 \times 10^3 - 2.34 \times 10^2 =$
 A) 2,790 B) 3,896 C) 4,896 D) 3,790
- (3) $\frac{4^3 \times 2^2}{8^2} =$
 A) 4 B) 8 C) 16 D) 32
- (4) 36 feet/second = _____ yards/second (yds./sec).
 A) 108 yds./sec B) 27 yds./sec C) 18 yds./sec D) 12 yds./sec
- (5) $1 + 2 + 3 + 4 + \dots + 15 =$
 A) 120 B) 90 C) 80 D) 30
- (6) Elena buys notebooks at a price of 4 for \$5 and sells them at a price of 3 for \$5. How many notebooks must she sell to make a profit of \$100?
 A) 100 B) 120 C) 200 D) 240
- (7) $75 \times 22 + 2 \times 75 =$
 A) 1,650 B) 1,800 C) 1,875 D) None of these
- (8) Look at the factor tree diagrams below. Which one is correct?



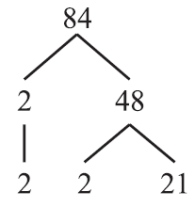
A) 48



B) 56



C) 75



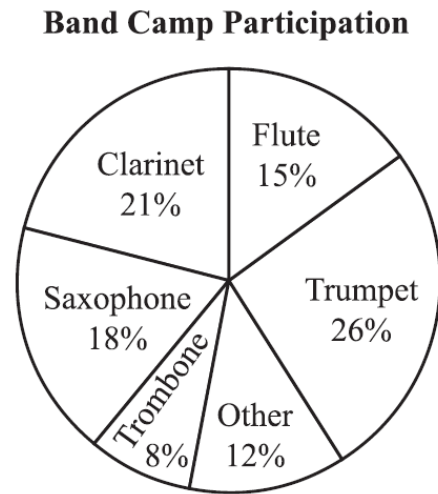
D) 84

- (9) The numbers 1, 2, 3, 4, 5, and 6 appear on a cube, with one number on each side of the cube. If the cube is rolled, what is the probability that it will land on a number that is greater than 4?
 A) $\frac{1}{6}$ B) $\frac{1}{3}$ C) $\frac{1}{2}$ D) $\frac{2}{3}$
- (10) $24 + 12 \div 4 =$
 A) 9 B) 28 C) 27 D) 18

- (11) $8\frac{5}{6} + 2\frac{3}{4} =$
 A) $10\frac{1}{3}$ B) $11\frac{4}{5}$ C) $10\frac{4}{5}$ D) $11\frac{7}{12}$
- (12) $23088 \div 208 =$
 A) 111 B) 101 C) 1010 D) 1111
- (13) Assuming there are twenty-four hours in a day, how many hours are in the month of November?
 A) 7,200 hours B) 720 hours C) 744 hours D) 7,440 hours

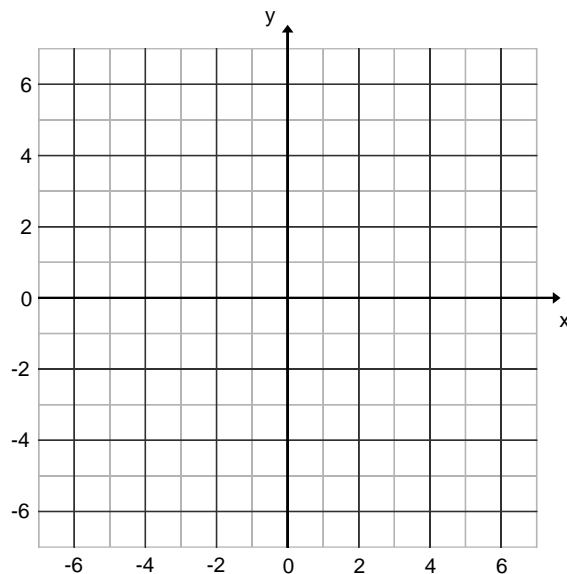
For problems 14 – 15, please use the chart below.

- (14) The circle graph to the right displays the percentage of the band represented by each instrument at last month's band clinic. If 200 students attended the band clinic, how many students were in the two largest groups combined?
 A) 94
 B) 108
 C) 49
 D) 88



- (15) How many more students played the trumpet than played the trombone?
 A) 18 B) 52 C) 16 D) 36

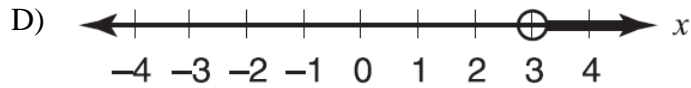
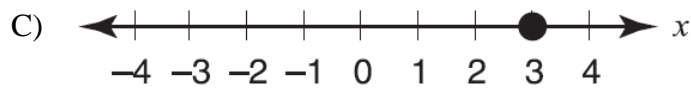
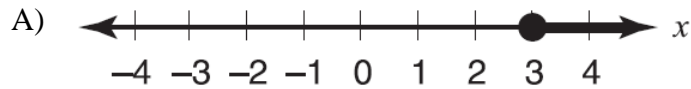
- (16) Which polygon is formed by plotting and connecting ordered pairs (1, -1), (-2, -1), (-4, 4), (-2, 6), (1, 6), (3, 4), and (3, 1)?
 A) hexagon
 B) heptagon
 C) octagon
 D) nonagon



- (17) What is the distance between -2 and 4 on a number line?
 A) 2 B) 6 C) -6 D) -8
- (18) If the area of Liz's square box is 144 square feet, what is the perimeter of the box?
 A) 48 feet B) 36 feet C) 72 feet D) 576 feet

- (19) One angle of a triangular pennant measures 68 degrees. If the pennant is shaped like an isosceles triangle, what is the measure of one of the other angles?
 A) 56° B) 90° C) 112° D) 146°

- (20) Which of the following is the correct graph for the inequality $9x \geq 27$?

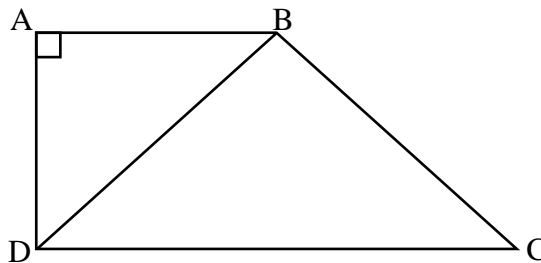


For problems 21 – 23, please use the information below.

Albert surveyed some of his co-workers, who are parents, to see how many hours per school-night they allow their own children watch TV. The result of his survey is:
 {3 hrs., 1.5 hrs., 4 hrs., 3 hrs., 2.5 hrs., 0 hr., 1 hr., 1 hr., 2 hrs.}

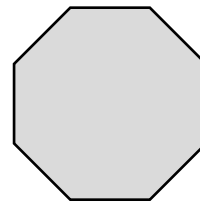
- (21) What is the median of these hours of allowed TV watching?
 A) 1 hour B) 2 hours C) 3 hours D) 4 hours
- (22) What is the mean of these hours of allowed TV watching?
 A) 1 hour B) 2 hours C) 3 hours D) 4 hours
- (23) What is the range of these hours of allowed TV watching?
 A) 1 hour B) 2 hours C) 3 hours D) 4 hours
- (24) $4\frac{1}{4} \times 8\frac{3}{4} =$
 A) $37\frac{3}{8}$ B) $32\frac{3}{16}$ C) $37\frac{3}{16}$ D) $32\frac{3}{8}$
- (25) $Z(x) = x^2 - 9x - 36$ has two roots (answers). What is the sum of those two roots?
 A) 15 B) 9 C) -16 D) -5
- (26) What is the degree measure of the smaller angle formed by the hands of a clock at 10 o'clock?
 A) 30° B) 45° C) 60° D) 75°

- (27) What is the remainder when 2019^{2018} is divided by 5?
 A) 1 B) 2 C) 3 D) 4
- (28) In a far-off land three fish can be traded for two loaves of bread and a loaf of bread can be traded for four bags of rice. How many bags of rice is one fish worth?
 A) $2\frac{2}{3}$ B) $\frac{1}{2}$ C) $3\frac{1}{3}$ D) $\frac{3}{4}$
- (29) Andy and Genny ordered a large pizza that had been cut into equal-sized pieces. Andy ate one half of the pizza and Genny ate one fourth of it. If there were 5 pieces left, how many pieces were there to begin with?
 A) 12 B) 16 C) 20 D) 24
- (30) A school has 40 teachers and each teacher teaches 4 classes. Each class has 30 students and one teacher. If each student takes 5 classes how many students does the school have?
 A) 960 B) 1000 C) 1200 D) 1500
- (31) One ball is drawn from a box containing 4 white balls, 7 red balls and 5 blue balls. What is the probability that the ball is not red?
 A) $\frac{1}{4}$ B) $\frac{5}{16}$ C) $\frac{9}{16}$ D) $\frac{1}{2}$
- (32) The letter "A" represents the units digit in the five-digit number 15,71A. If A is greater than zero and 6 divides the number, what is the value of A?
 A) 3 B) 4 C) 5 D) 6
- (33) During the first half of a basketball game a team made 70% of their 30 field goal attempts. During the second half they made 30% of 50 attempts. What was their field goal percentage for the entire game?
 A) 55% B) 50% C) 45% D) 40%
- (34) A square is inscribed in a circle of radius r . What is the area of the square?
 A) $2r$ B) $4r$ C) $2r^2$ D) $4r^2$
- (35) In the figure to the right find the measure of angle CBD given that ABCD is a trapezoid, the measure of angle ABD is 30 degrees and the measure of angle BCD is 40 degrees.
 A) 30°
 B) 40°
 C) 70°
 D) 110°

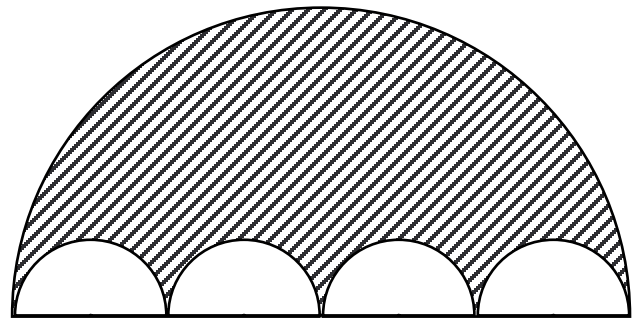


- (38) My car traveled 310 miles using 9.9 gallons of gas. The price of gas is \$1.65 per gallon. Which is the best estimate of the cost of a 625-mile trip?
 A) \$13 B) \$19 C) \$33 D) \$48
- (39) A rectangular region is formed from 9 rows with 5 small squares per row. How many small squares do not have an edge on the perimeter of the rectangle?
 A) 21 B) 25 C) 27 D) 36
- (40) Our local hardware store has some bicycles and tricycles for sale during the holiday season. If there are 25 seats and 60 wheels in all, how many bicycles does the store have for sale?
 A) 7 B) 10 C) 15 D) 20
- (41) One of the tallest trees in my pasture casts a shadow 3 feet long at the same time that a pole 32 feet high casts a shadow that is 2 feet long. How tall is the tree?
 A) 32 feet B) 36 feet C) 40 feet D) 48 feet

- (42) What is the number of lines of symmetry for the regular octagon illustrated to the right?
 A) 4
 B) 6
 C) 8
 D) 10



- (43) All the arcs in the figure to the right are congruent semicircles. What fractional part of the larger semicircular region is shaded?
 A) $\frac{1}{4}$
 B) $\frac{1}{2}$
 C) $\frac{2}{3}$
 D) $\frac{3}{4}$



- (44) Wes had his salary reduced by 10%. He was later promoted, and his salary was increased by 10%. If his original salary was \$ 20,000, what is his present salary?
 A) \$16,200 B) \$19,800 C) \$20,000 D) \$20,500
- (45) In a basketball shooting competition, each competitor shoots ten balls which are numbered from 1 to 10. The number of points earned for each successful shot is equal to the number on the ball. If a competitor misses exactly two shots, which one of the following scores is not possible?
 A) 52 B) 44 C) 41 D) 35
- (46) Which quadratic function when graphed does not have a vertex at (-3, 4)?
 A) $f(x) = (x - 3)^2 + 4$ B) $f(x) = -3(x - 3)^2 + 4$ C) $f(x) = (-x - 3)^2 + 4$ D) $f(x) = -3x^2 - 18x - 23$

- (47) The graph of the equation $Ax + 3y = -3$ is a line that passes through $(2, -5)$. What is the value of A ?
 A) 3 B) 5 C) 6 D) 7
- (48) The length of the hypotenuse of a right triangle is 1-cm more than the length of the longer leg. The length of the shorter leg is 7-cm less than the length of the longer leg. What is the length of the shorter leg of the triangle?
 A) 4 cm B) 5 cm C) 12 cm D) 13 cm
- (49) A plumber extended the length (x) of an existing drainpipe. He doubled the length and added 7 more inches. The extended drainpipe has a total length of 32 inches. Which equation represents the length of the extended drainpipe?
 A) $2x - 7 = 32$ B) $2(x + 7) = 32$ C) $7(2x) = 32$ D) $2x + 7 = 32$
- (50) Mackenzie is training for her upcoming athletic season. She set a goal to run at least 40 miles in 7 days. She ran 4 miles on the first day. What is the least number of miles she must run over each of the remaining 6 days to reach her goal?
 A) 4 miles B) 6 miles C) $7\frac{1}{2}$ miles D) 30 miles
- (51) Noah has a triangular flowerbed. Each side of the flowerbed is a different length. The lengths of the sides are the first 3 odd prime numbers. What is the difference between the longest side and the shortest side?
 A) 2 B) 3 C) 4 D) 5
- (52) An internet provider company charges \$9.95 per month plus \$0.05 per hour of usage. Genny used 80 hours in February. How much will she be charged?
 A) \$13.95 B) \$25.95 C) \$49.95 D) \$409.95
- (53) The factory listing on Matt's new car indicated the average mileage would be 30 miles per gallon (mpg). Matt's gas mileages for the past 3 weeks were 27 mpg, 31 mpg, and 30 mpg. How many miles per gallon must his car get next week so that the average is equal to the factory listing?
 A) 29 mpg B) 30 mpg C) 32 mpg D) 33 mpg
- (54) A car was driven 360 miles at constant speed. If the trip had been taken 5 mph slower, it would have taken an extra hour. What was the speed of the trip, in mph?
 A) 42 mph B) 45 mph C) 48 mph D) 50 mph
- (55) Mrs. Sanchez stopped for gas when the gas gauge indicated the tank was $\frac{1}{8}$ full. After putting in \$5 worth of gas, her gauge indicated the tank was full. If gas costs \$1.25 per gallon how many gallons of gasoline does the tank hold when full?
 A) 12 gallons B) 14 gallons C) 16 gallons D) 18 gallons
- (56) The units (ones) digit of the product of any six consecutive whole numbers is what number?
 A) 0 B) 1 C) 5 D) 8
- (57) In how many ways can you arrange four books on a shelf?
 A) 8 B) 10 C) 16 D) 24

**2017 – 2018 TAME Middle School Division Mathematics Test
Answer Key**

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

- (21) B
- (22) B
- (23) D
- (24) C
- (25) B
- (26) C
- (27) A
- (28) A
- (29) C
- (30) A
- (31) C
- (32) B
- (33) C
- (34) C
- (35) D
- (36) B
- (37) A
- (38) C
- (39) A
- (40) C

- (41) D
- (42) C
- (43) D
- (44) B
- (45) D
- (46) A
- (47) C
- (48) B
- (49) D
- (50) B
- (51) C
- (52) A
- (53) C
- (54) B
- (55) C
- (56) A
- (57) D
- (58) D
- (59) C
- (60) A