

Kolbe Academy

Junior High Math Placement Test

The purpose of this test is to help you determine the appropriate junior high math course for your student. You should set aside one hour to take this test. The student should be placed in a quiet environment with no distractions. The student should be given scrap paper to work out the problems. Do not use a calculator. All questions should be attempted but if the student has no idea how to do a problem, leave the problem blank. When the student has completed the test, you may use the answer key to determine the results of the test. The work should be the students and no help should be given. The purpose of this test is to correctly place your student.

3-17-2016

<p>1) What is the correct way to write $8 \times 8 \times 8$ in exponential form?</p> <p>a) 2^8 b) 512 c) 8^3 d) 64</p>	<p>2) Which comparison is true?</p> <p>a) $128,510 > 128,501$ b) $128,501 > 128,510$ c) $218,510 < 218,501$ d) $218,501 > 281,501$</p>
<p>3) Solve for x: $0.018 \div 6 = x$</p> <p>a) 3 b) 0.3 c) 0.03 d) 0.003</p>	<p>4) Identify the complete, correct list of the factors of 24</p> <p>a) 1, 2, 8, 12 b) 1, 3, 6, 12, 24 c) 1, 2, 3, 4, 6, 8, 12, 24 d) 1, 2, 3, 4, 6, 9, 12, 24</p>
<p>5) What is $3 \frac{5}{6}$ as an improper fraction?</p> <p>a) $\frac{18}{6}$ b) $\frac{23}{6}$ c) $\frac{8}{6}$ d) $3 \frac{5}{6}$</p>	<p>6) How is $\frac{17}{4}$ written as a mixed number?</p> <p>a) $5 \frac{3}{4}$ b) $5 \frac{1}{4}$ c) $4 \frac{1}{4}$ d) $4 \frac{3}{4}$</p>
<p>7) Anna had $\frac{3}{4}$ of her book completed. What decimal is this equal to?</p> <p>a) 0.75 b) 7.5 c) 0.075 d) 0.0075</p>	<p>8) What is the correct order from least to greatest for the following numbers: 23.49, 19.5, 19.84, 23</p> <p>a) 23.49, 23, 19.84, 19.5 b) 19.5, 19.84, 23.49, 23 c) 19.84, 19.5, 23, 23.49 d) 19.5, 19.84, 23, 23.49</p>
<p>9) Jared got a 97%, 52%, 95%, and an 89% on his last four math tests. What is his average percentage?</p> <p>a) 81.33% b) 83.25% c) 85% d) 85.25%</p>	<p>10) Charlie left Barrytown at 7:45 a.m. and arrived in St. Paul at 9:39 a.m. How long did the entire trip take?</p> <p>a) 1 hour and 45 minutes b) 1 hour and 54 minutes c) 2 hours and 6 minutes d) 2 hours</p>

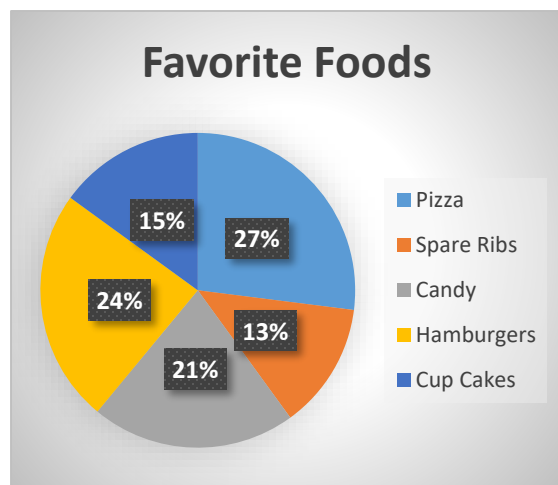
11) Jennifer is going to order 10 pizzas for her birthday party. Each pizza costs \$9.45. How much does it cost to buy 10 pizzas?

- a) \$945.00
- b) \$0.95
- c) \$945.50
- d) \$94.50

12) Larry and Hank have 9.25 pieces of dessert left over from their party and they are going to divide it evenly. How many pieces does each boy get?

- a) 46.25
- b) 4.025
- c) 462.5
- d) 4.625

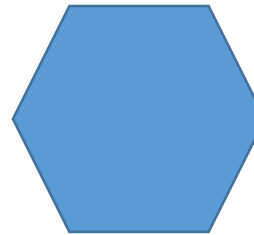
13) Jimmy took a survey of students at his school to determine what their favorite foods were. The results are on the graph below.



What is the percent of students who chose spare ribs or pizza as their favorite foods?

- a) 5%
- b) 35%
- c) 40%
- d) 50%

14)



is an example of a(n)

- a) octagon
- b) hexagon
- c) pentagon
- d) nonagon

15) What place value does 4 hold in the number 72,341?

- a) ones
- b) tens
- c) hundreds
- d) thousands

16) What is $\frac{1}{3}$ of 12?

- a) 5
- b) 3
- c) 4
- d) 2

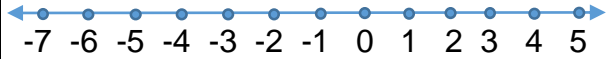
<p>17) Find the greatest common factor (GCF) of 28 and 32</p> <p>a) 1 b) 4 c) 5 d) 6</p>	<p>18) What is the correct word form of 6.43?</p> <p>a) six and forty-three hundredths b) six and forty-three thousandths c) six and forty-three d) six and forty-three tenths</p>
<p>19) Terry answered 18 out of 25 questions correctly. What percentage of the questions did he answer correctly?</p> <p>a) 72% b) 18% c) 7% d) 75%</p>	<p>20) Solve for x:</p> $100 \cdot 5.381 = x$ <p>a) 0.05381 b) 538.1 c) 5,381 d) 53.81</p>
<p>21) Identify the prime factorization for 56</p> <p>a) 8×7 b) 2×3^2 c) 7×2^3 d) $2 \times 4 \times 7$</p>	<p>22) What are the missing two numbers in the pattern 12, 16, 13, 17, 14, __, __, 19</p> <p>a) 10, 11 b) 18, 15 c) 15, 18 d) 11, 21</p>
<p>23) When Robert checked his messages, $\frac{5}{12}$ of the messages were from friends, $\frac{4}{21}$ was solicitors, and $\frac{1}{3}$ were from his family. What fraction of the messages were from his family and friends? Reduce to lowest terms.</p> <p>a) $1 \frac{1}{12}$ b) $\frac{11}{24}$ c) $\frac{1}{6}$ d) $\frac{3}{4}$</p>	<p>24) Solve for m:</p> $\frac{4}{9} + m = \frac{5}{6}$ <p>a) $1 \frac{5}{18}$ b) $\frac{23}{18}$ c) $\frac{11}{18}$ d) $\frac{7}{18}$</p>

25) A triangle has two angles that measure 35° and 65° . What is the measure of the missing angle?

Hint: The sum of the angles in a triangle = 180°

- a) 150°
- b) 100°
- c) 80°
- d) 70°

26) Use the line below to help answer the question. What is the next number in the pattern: -6, -5, -3, 0



- a) 4
- b) 5
- c) 6
- d) 7

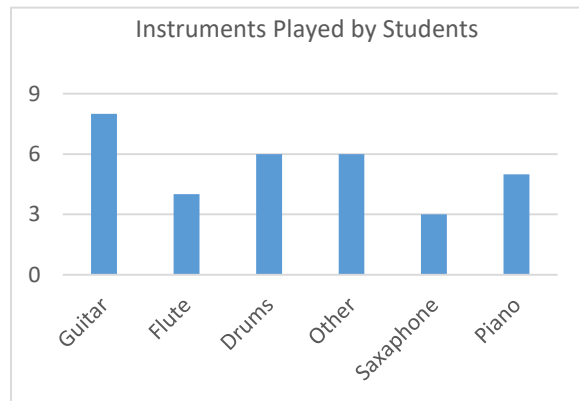
27) What percent is the same as $\frac{3}{4}$?

- a) 60%
- b) 65%
- c) 75%
- d) 50%

28) Which expression best demonstrates the distributive property for the equation: $2 \times (4 + 3) = \underline{\hspace{2cm}}$

- a) $(2 \times 4) + (2 \times 3)$
- b) $(2 \times 4) + 3$
- c) $(2 + 4) \times (2 + 3)$
- d) $(2 \times 4) \times (2 \times 3)$

29) According to the bar graph, approximately how many students play the piano or play the guitar?



- a) 15
- b) 18
- c) 13
- d) 10

30) Solve for p: $\frac{19}{25} - \frac{4}{25} = p$

Reduce to lowest terms

- a) $\frac{23}{25}$
- b) $\frac{1}{5}$
- c) $\frac{3}{5}$
- d) $\frac{3}{25}$

31) Solve for x:

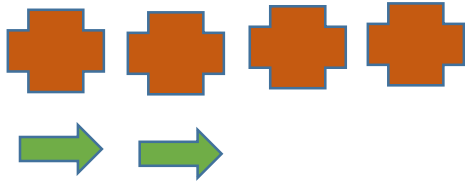
$$0.615 - 0.4 = x$$

- a) 0.115
- b) 0.235
- c) 0.615
- d) 0.215

32) What is the radius of a circle that has diameter of 10 cm

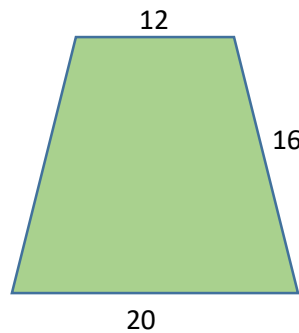
- a) 20 cm
- b) 15 cm
- c) 10 cm
- d) 5 cm

33) What is the ratio of arrows to crosses? Remember to express the ratio in lowest terms.



- a) 1:2
- b) 4:6
- c) 2:1
- d) 2:4

34) What is the perimeter of the figure?



- a) 64 in.
- b) 48 in.
- c) 16 in.
- d) 60 in.

35) Identify the list of numbers that has all prime numbers.

- a) 1, 3, 5, 9
- b) 3, 5, 7, 11
- c) 2, 4, 6, 8
- d) 1, 2, 3, 4

36) 14 cookies were plain chocolate cookies and 7 had icing on them. What is the ratio of iced cookies to chocolate cookies, in lowest terms?

- a) 14:7
- b) 7:1
- c) 1:2
- d) 2:1

37) What equation best matches this situation? After Peter paid \$10.95 for his new T-shirt, he had \$4.36 left. Which expression shows how to find how much money Peter started with?

- a) $\$4.36 + x = \10.95
- b) $\$10.95 + x = \4.36
- c) $x - \$10.95 = \4.36
- d) $\$10.95 - \$4.36 = x$

38) Lucy ran the 400-meter race 3 times. Her fastest time was 52.3 seconds. Her slowest time was 58.1 seconds. If her average time was 55.0 seconds, what was her time for the third race?

- a) 1200 sec
- b) 54.6 sec
- c) 55.1 sec
- d) 54.9 sec

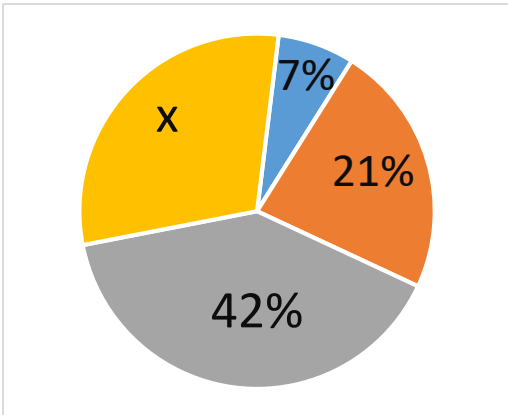
39) Round 9.19362 to the nearest thousandth.

- a) 9.19
- b) 9.194
- c) 9.193
- d) 9.2

40) How many quarter-pound hamburgers can be made from 100 pounds of ground beef?

- a) 400
- b) 25
- c) 50
- d) 200

41) Using the given chart, find the percentage of x:



- a) 30%
- b) 20%
- c) 110%
- d) 29%

42) How many ounces are in 4.5 pounds?
Hint: 16 ounces = 1 pound

- a) 6.2 ounces
- b) 0.28 ounces
- c) 66 ounces
- d) 72 ounces

43) A box of pasta has the following dimensions: height of 12 inches and width of 2 inches. If the volume of the box is 192 cubic inches, find the length of the box.

Hint: Volume = length x width x height

- a) 10 inches
- b) 8 inches
- c) 14 inches
- d) 6 inches

44) Simplify:

$$3^3 + 2(8 - 4) \div 4$$

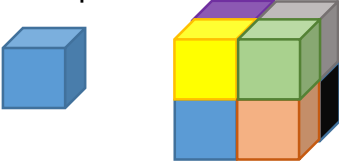
- a) 65
- b) 41
- c) 29
- d) 30

45) Convert 0.32 to a fraction

- a) $\frac{1}{25}$
- b) $\frac{1}{32}$
- c) $\frac{1}{64}$
- d) $\frac{8}{25}$

46) Daryl scored $\frac{1}{4}$ of the points at last night's soccer game. What percentage of the total points did he score?

- a) 14%
- b) 20%
- c) 25%
- d) 40%

<p>47) Which of the following is a translation of “four less than two times a number x”</p> <p>a) $2x-4$ b) $4x-2$ c) $4-2x$ d) $2-4x$</p>	<p>48) Solve: $8 + 4[(2+6)^2 - (2^3 + 5)]$</p> <p>a) 222 b) 36 c) 97 d) 212</p>
<p>49) What is the mathematical expression for “the 250 points earned was split between all the people and each got 25”?</p> <p>a) $250 - p = 25$ b) $250/p = 25$ c) $250p = 25$ d) $250p + 25$</p>	<p>50) Using the pattern of two prisms below. How many cubes will there be in a third prism?</p>  <p>a) 12 b) 24 c) 27 d) 32</p>
<p>51) The length of a track around a field is $\frac{1}{4}$ mile. You jog $3\frac{1}{2}$ times around the track. How far do you jog?</p> <p>a) $\frac{1}{2}$ miles b) $\frac{2}{5}$ miles c) $\frac{7}{8}$ miles d) 1 mile</p>	<p>52) Which digit is in the hundred-thousands place in the number 987,654,321?</p> <p>a) 4 b) 5 c) 6 d) 7</p>
<p>53) In an auditorium there are 25 rows with 18 chairs in each row. How many chairs are in the auditorium?</p> <p>a) 250 b) 400 c) 450 d) 500</p>	<p>54) The area of a square is 64 cm^2. What is the perimeter of the square?</p> <p>a) 64 cm b) 32 cm c) 16 cm d) 8 cm</p>

55) What is the average of 4.2, 2.61, and 3.6?

- a) 3.25
- b) 3.47
- c) 2.98
- d) 4.2

56) Frank has 224 board games. He bought $\frac{3}{4}$ of his games on the Internet.

Of the games he bought on the Internet, $\frac{1}{6}$ are card games. How many card games did he buy on the Internet?

- a) 14 games
- b) 30 games
- c) 28 games
- d) 42 games

Answer Key

1. C	15. B	29. C	43. B
2. A	16. C	30. C	44. C
3. D	17. B	31. D	45. D
4. C	18. A	32. D	46. C
5. B	19. A	33. A	47. A
6. C	20. B	34. A	48. D
7. A	21. C	35. B	49. B
8. D	22. B	36. C	50. C
9. B	23. D	37. C	51. C
10. B	24. D	38. B	52. C
11. D	25. C	39. B	53. C
12. D	26. A	40. A	54. B
13. C	27. C	41. A	55. B
14. B	28. A	42. D	56. C

Less than 20 right: Student may struggle in Math 7. Consider doing math bridge work in the summer.

20-37 correct: Student may be placed in Math 7

38-56 correct: Student may be placed in Math 8