1. Find the **LCM** of **10** and **12**.

   A. 2
   B. 22
   C. 60
   D. 120

2. Find the **GCF** of **42** and **98**.

   A. 2
   B. 7
   C. 14
   D. 294

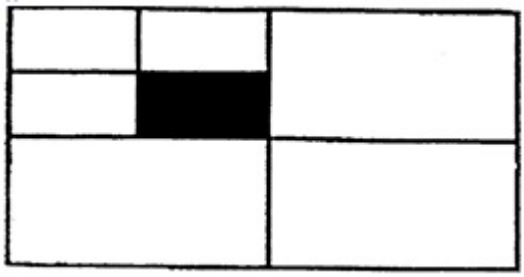
3. What is the **prime factorization** of **300**?

   A. $2^2 \times 5^2$
   B. $2 \times 3 \times 5^2$
   C. $2^2 \times 3 \times 5$
   D. $2^2 \times 3 \times 5^2$

4. The following portions of three pizzas were left: $\frac{2}{3}, \frac{3}{5}$, and $\frac{3}{4}$. Order the portions from least to greatest.

   A. $\frac{3}{5}, \frac{2}{3}, \frac{3}{4}$
   B. $\frac{2}{3}, \frac{3}{5}, \frac{3}{4}$
   C. $\frac{3}{4}, \frac{3}{5}, \frac{2}{3}$
   D. $\frac{2}{3}, \frac{3}{4}, \frac{3}{5}$

5.



What **fractional part** of the figure does the **shaded area** represent?

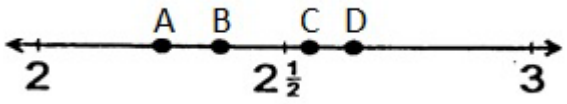
A. $\frac{1}{16}$

B. $\frac{1}{12}$

C. $\frac{1}{7}$

D. $\frac{1}{6}$

6.



Which point best represents **2.65** on the number line above?

A. point A
B. point B
C. point C
D. point D

7. Order the following from **least to greatest**: 2.003, 2.3, 2.01, 2.0004.

A. 2.01, 2.3, 2.003, 2.0004
B. 2.3, 2.01, 2.003, 2.0004
C. 2.0004, 2.003, 2.01, 2.3
D. 2.01, 2.003, 2.3, 2.0004

8. Round 12.239 to the nearest **hundredth**.

A. 12
B. 12.2
C. 12.23
D. 12.24

9. What is the **decimal** equivalent to $\frac{7}{10\,000}$?

A. 0.007
B. 0.0007
C. 70 000
D. 0.7000

10. When you **multiply a number by 0.6**, you should expect the answer to be

A. about half of the number
B. about the same as the number
C. about twice the number
D. about six times the number

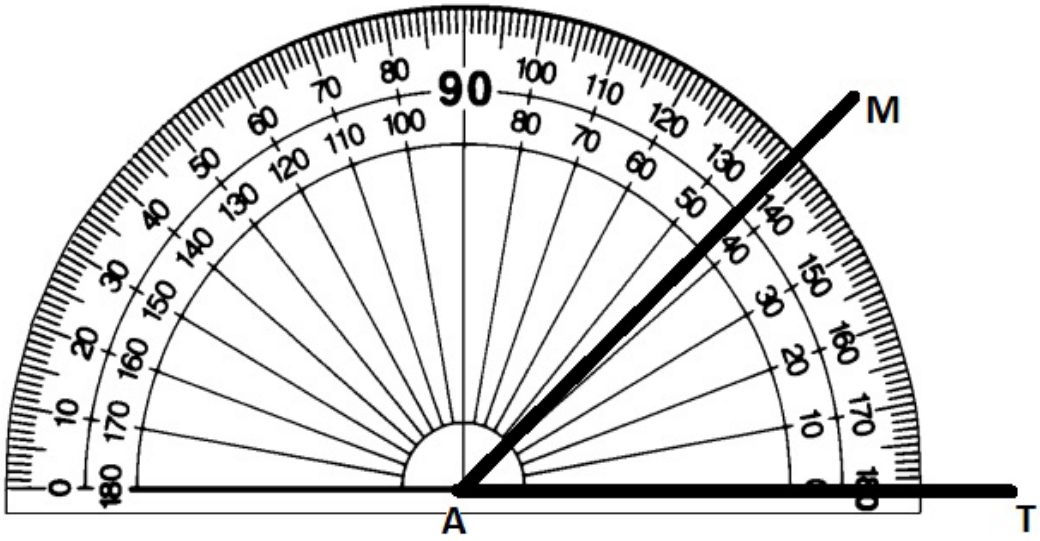
11. Subtract. Write the answer in **simplest form**.

$$\frac{10}{12} - \frac{1}{4}$$

A. $\frac{9}{8}$
B. $\frac{9}{12}$
C. $\frac{7}{12}$
D. $\frac{3}{4}$

12. A cook needed 18 oz. of rice to make shrimp gumbo. He had $7\frac{1}{2}$ oz. in one package and $6\frac{1}{4}$ oz. in another package. How many **more ounces** does he need?

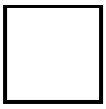
A. $4\frac{1}{4}$ oz.
B. $5\frac{1}{4}$ oz.
C. 6 oz.
D. $6\frac{1}{2}$ oz.

13. 

What is the **degree measure** of angle MAT, shown above?

A. 43°
B. 57°
C. 137°
D. 143°

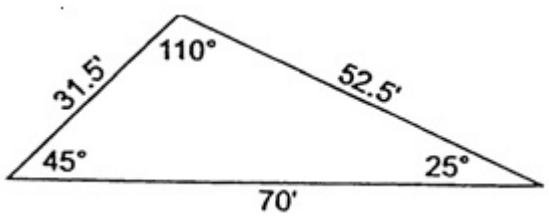
14.



A square is shown above. How many **lines of symmetry** does the figure have?

A. one
B. two
C. three
D. four

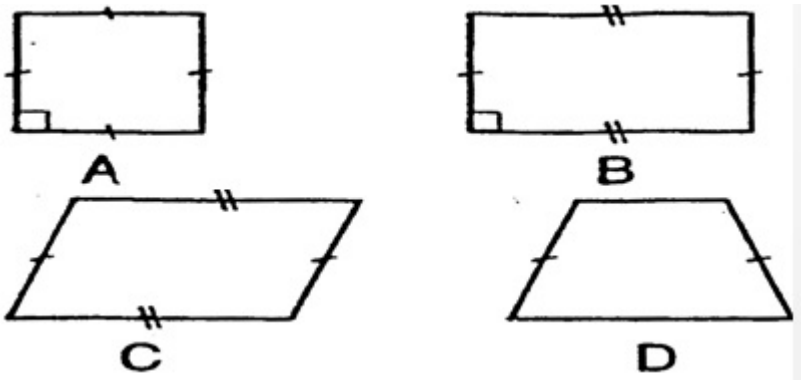
15.



The triangle shown above is

A. acute
B. isosceles
C. obtuse
D. right

16.



Which figure above is **NOT a parallelogram**?

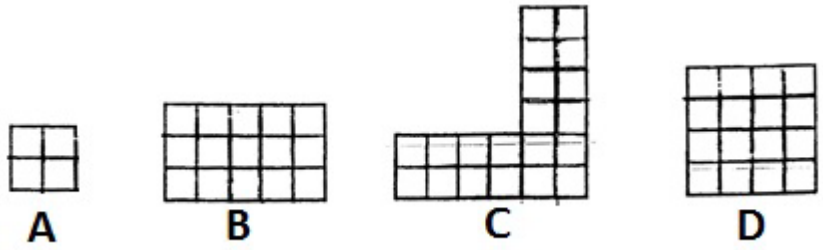
A. figure A
B. figure B
C. figure C
D. figure D

17.

What is the length of the line segment above?

A. 3.4 inches
B. $3\frac{1}{4}$ inches
C. 2.4 inches
D. $2\frac{1}{4}$ inches

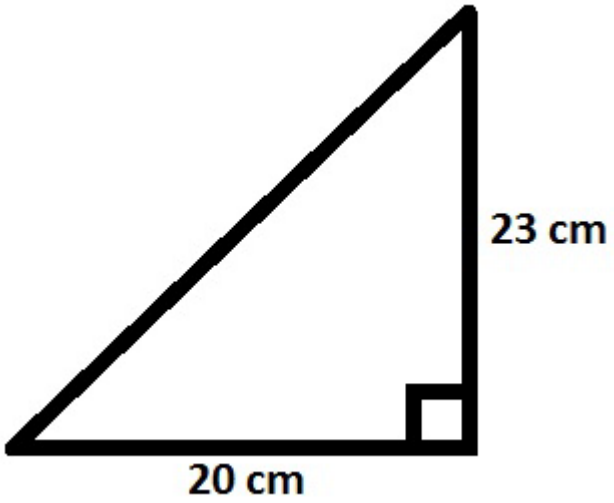
18.



The figures above are composed of unit squares. Which figure has an **area** that is numerically **equal** to its **perimeter**?

A. figure A
B. figure B
C. figure C
D. figure D

19.



What is the area of the triangle shown above?

A. 43 cm²
B. 115 cm²
C. 230 cm²
D. 460 cm²

20. Which of the following would be the **best** unit of measurement for expressing the **mass** of a **paper clip**?

A. gram
B. milligram
C. kilogram
D. metric ton

21. There are **12 cars** and **4 trucks** in a parking lot. Which of the following represents the **ratio** of cars to trucks?

A. 2:1
B. 3:1
C. 8:1
D. 12:1

22. A recipe calls for **2 cups of sugar** for every **5 cups of flour**. How many cups of sugar are needed for **each** cup of flour?

A. $\frac{2}{5}$
B. 0.25
C. $\frac{5}{2}$
D. 3

23. Which of the following represents 40% of a total?

A. 20 out of 60
B. 32 out of 80
C. 3 out of 120
D. 40 out of 160

24. 30% of what number is 60?

A. 18
B. 50
C. 180
D. 200

25. A recipe calls for 2 cups of milk for 12 servings of soup. How much milk is needed for 24 servings of soup?

A. 3 cups
B. 4 cups
C. 6 cups
D. 14 cups

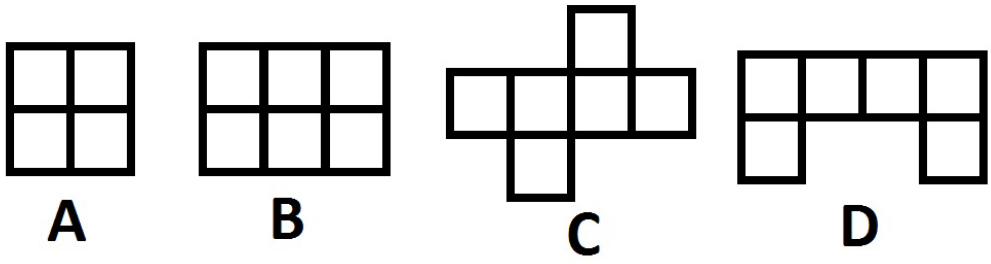
26. A piece of fabric is 144 inches long. How many yards long is it?

A. 3
B. 4
C. 10
D. 12

27. A piece of wire is 2.25 meters long. How long is the wire in centimeters?

A. 22.5 cm
B. 225 cm
C. 0.025 cm
D. 0.0025 cm

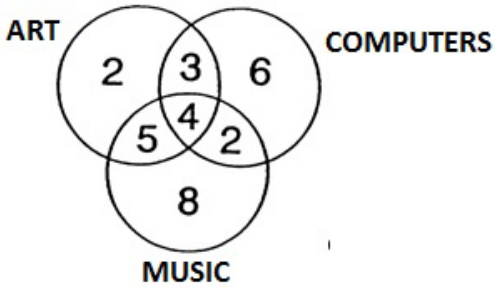
28.



Which of the figures above represents a net for a cube?

A. figure A
B. figure B
C. figure C
D. figure D

29.



At Kentucky Middle School, students may take up to three electives. The Venn diagram above shows the numbers of students in Mr. Lawton's homeroom class who are taking the electives of art, music, and/or computers. What is the total number of students who are taking both art and computers?

A. 22
B. 7
C. 4
D. 3

30. What is the median of the set of data shown below?

26, 33, 37, 32, 24, 35, 29, 38

A. 24.5
B. 28
C. 32.5
D. 35

31. What is the mean of the data set below?

2, 4, 7, 5, 8, 0, 6, 8

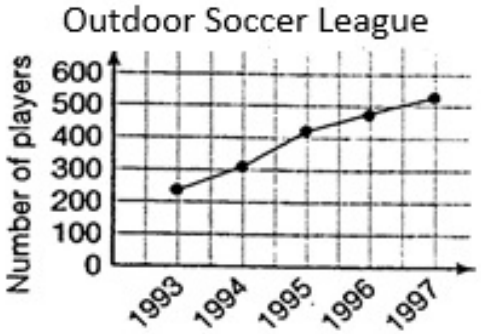
A. 5
B. 5.5
C. 6.5
D. 8

32. What is the range of the data set below?

38, 55, 91, 92, 34, 87

A. 45
B. 49
C. 54
D. 58

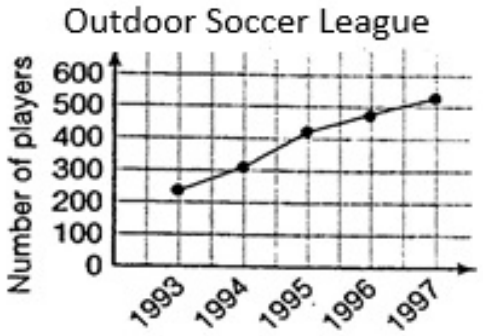
33.



Based on the graph above, which period had the greatest increase in the number of players?

A. 1993-94
B. 1994-95
C. 1995-96
D. 1996-97

34.

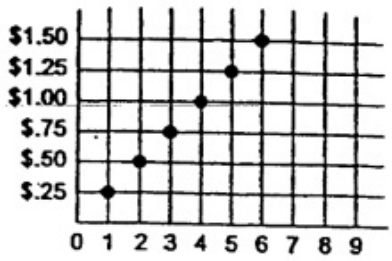


If the trend shown on the graph continued, about how many players would there be in 1998?

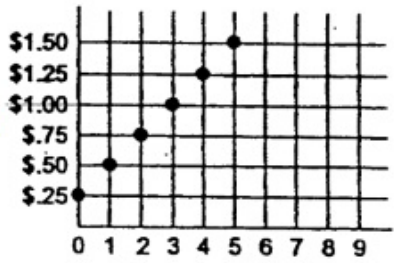
A. 750
B. 700
C. 600
D. 500

35.

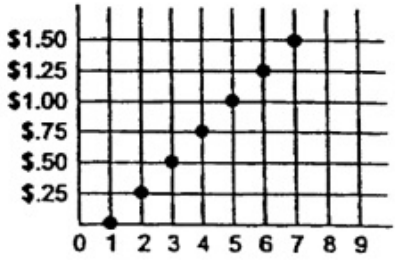
A.



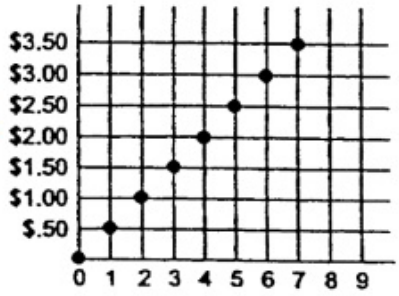
B.



C.



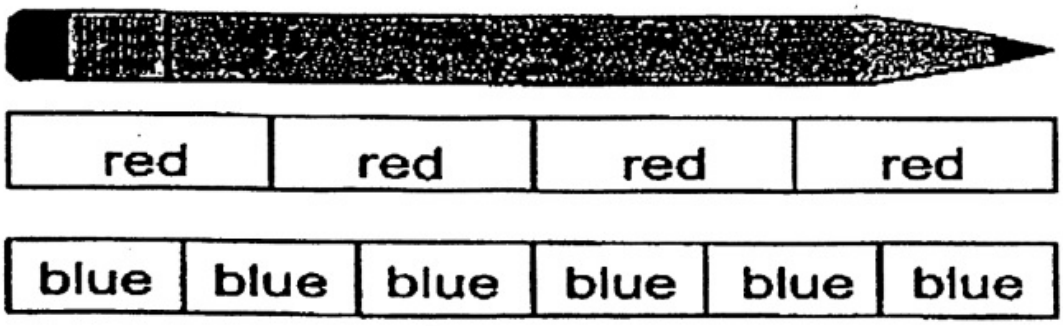
D.



Which of the graphs above represents the price of corn that sells at two cans for 50 cents?

A. figure A
B. figure B
C. figure C
D. figure D

36.



The picture above shows a pencil measured in red sticks and blue sticks. When these same sticks are used to measure a comb, the comb is 6 red sticks long. How many blue sticks would it take to measure the length of the same comb?

A. 8
B. 9
C. 10
D. 12

37. What are the next three numbers in this sequence?

1, 3, 6, 10, 15, ___ , ___ , ___

A. 20, 25, 30
B. 20, 26, 33
C. 21, 27, 33
D. 21, 28, 36

38.

n	?
5	7
2	4
0	2

Find the function rule for the table above.

A. n - 2
B. n + 2
C. 2n
D. 2n + 2

39.

$$n + 5 = 24$$

Find the value of n in the equation above.

A. 5
B. 6
C. 19
D. 29

40. A rectangle has an area of 195 square feet and a width of 13 feet. Which equation could you use to find its length (L)?

A. 13L = 195
B. 13 + L = 195
C. 26 + 2L = 195
D. 195 – 2L = 13

Spring Semester Summative Assessment 6th Grade Fayette County Public Schools

Item Analysis

C	1)	6.NS.4	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor.
C	2)	6.NS.4	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor.
D	3)	6.NS.4	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor.
A	4)	4.NF.2	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
A	5)	4.NF.1	Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
D	6)	6.NS.6	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.
C	7)	5.NBT.3	Read, write, and compare decimals to thousandths.
D	8)	4.NBT.3	Use place value understanding to round multi-digit whole numbers to any place.
B	9)	4.NF.6	Use decimal notation for fractions with denominators 10 or 100.
A	10)	5.NBT.7	NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
C	11)	5.NF.1	Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
A	12)	5.NF.1	Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
A	13)	4.MD.6	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
D	14)	4.G.3	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

C	15)	5.G.3	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.
D	16)	5.G.3	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.
D	17)	Math Practice #5	Use appropriate tools strategically.
D	18)	6.G.1	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
B	19)	6.G.1	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
A	20)	4.MD.1	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.
B	21)	6.RP.1	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.
A	22)	6.RP.2	Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship
B	23)	6.RP.3.C	Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.
D	24)	6.RP.3.C	Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.
B	25)	6.RP.3.D	Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.
B	26)	6.RP.3	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
B	27)	6.RP.3	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
C	28)	6.G.4	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.
B C A D	29) 30) 31) 32)	6.SP.3	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
B C	33) 34)	6.SP.4	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
A	35)	7.RP.2.b	Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
B	36)	6.RP.1	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.
D	37)	Math Practice #1	Make sense of problems and persevere in solving them.

B	38)	6.EE.2.a	Write expressions that record operations with numbers and with letters standing for numbers.
C A	39) 40)	6.EE.7	Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.