*6th Grade Mathematics Screening**

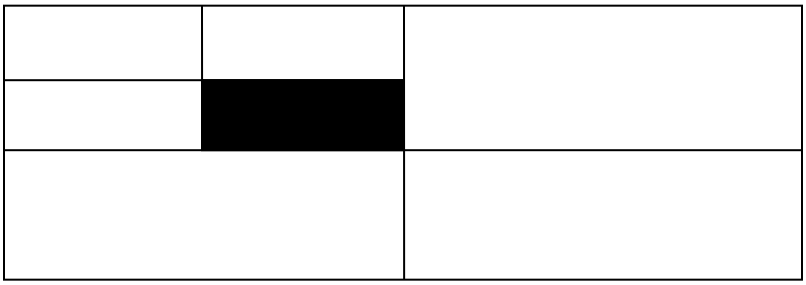
**(For incoming 6th graders to be given in the spring of their 5th grade year)*

Fayette County Public Schools

Directions: Write the correct letter for each question on your *answer sheet*. DO NOT WRITE ON THIS TEST!!

You MAY use a CALCULATOR on problems 1 - 33.

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



A. 1/16
B. 1/12
C. 1/7
D. 1/6

2.) Which of the following are in order from **least to greatest**?

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

3.) What is the missing number? **1.25 >** **?** **> 3/4**

A. 1/2
B. 1.00
C. 1 and 1/4
D. 1.50

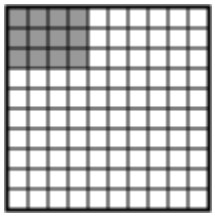
4.) Which explanation **correctly** tells how **3/4, 75/100,** and **0.75** are *related*?

A. **3/4** is *larger* than **75/100** and **0.75**
B. **3/4** is *smaller* than **75/100** and **0.75** .
C. **75/100** is *larger* than **0.75** and **3/4 .**
D. They are **all** *equivalent*.

5.) Which number is: a *multiple* of **3,** a *factor* of **42**, and *odd*?

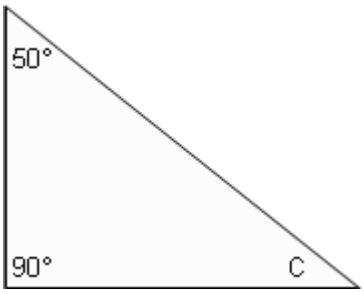
A. 6
B. 9
C. 14
D. 21

6.) Which statement is ***true*** about the figure below?



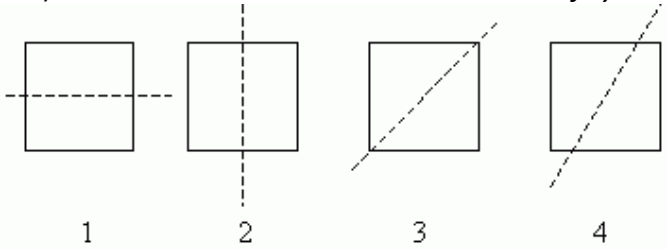
A. The *shaded area* represents **1/16** of the figure.
B. The *shaded area* represents **1/12** of the figure.
C. The *shaded area* represents **0.12** of the figure.
D. The *shaded area* represents **0.88** of the figure.

7.) Find the *measure* of angle **C**.



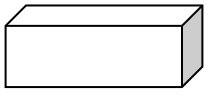
A. 30˚
B. 35˚
C. 40˚
D. 140˚

8.) Which of these does **NOT** show a *line of symmetry*?



A. 1
B. 2
C. 3
D. 4

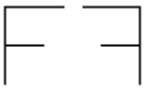
9.) How many *faces, edges*, and *vertices* does the *rectangular prism* have?



A. 4 faces, 9 edges, 7 vertices
B. 6 faces, 12 edges, 8 vertices
C. 8 faces, 6 edges, 12 vertices
D. 2 faces, 4 edges, 4 vertices

10.) Which picture shows a ***reflection*** of the letter **F**?

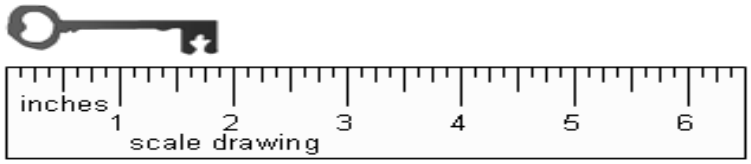
A. 

B. 

C. 

D. 

11.) How long is the key?



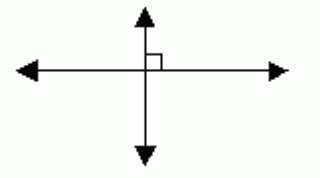
A. $1\frac{1}{2}$ in.

B. $1\frac{5}{8}$ in.

C. $1\frac{7}{8}$ in.

D. $1\frac{1}{8}$ in.

12.) Which can you say about these **lines**?

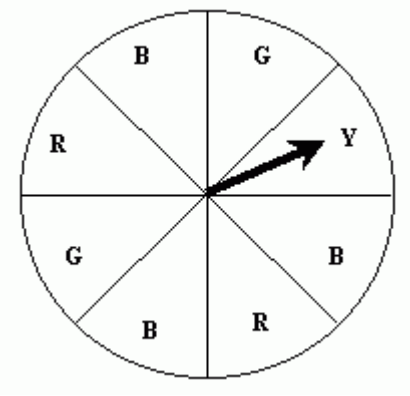


A. They are *parallel* lines.
B. They are *perpendicular* lines.
C. They are *parallel <u>and</u> perpendicular* lines.
D. These are *<u>neither</u> parallel lines nor perpendicular* lines.

13.) Ralph made the following scores on his math tests: **75, 86, 92, 82, 68, 78, 86**.
Which of the following are the **mean** and the **mode** of his scores?

A. Mean is 81, Mode is 86
B. Mean is 86, Mode is 92
C. Mean is 567, Mode is 86
D. Mean is 82, Mode is 567

14.) What is the **probability** that the spinner will land on *any* of the sections labeled **R or B**?



A. $\frac{1}{8}$
B. $\frac{4}{8}$
C. $\frac{5}{8}$
D. $\frac{6}{8}$

15.) Find the value of **n**.

$53 - \mathbf{n} = 14$

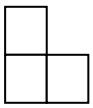
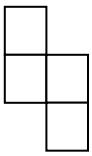
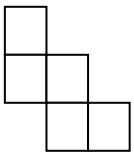
A. n=31
B. n=27
C. n=67
D. n=39

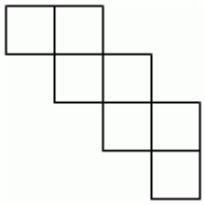
16.) What number is the **8th term** in the following sequence?

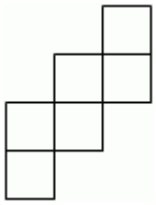
term	1	2	3	4	5	6	7	8
number	1	3	6	10				?

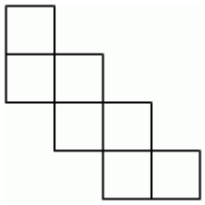
A. 20
B. 100
C. 36
D. 28

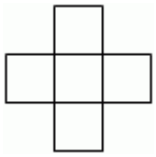
17.) Continue the *pattern* from the first *four designs* to determine the **6th design**.

Design						**?**
Number	**1**	**2**	**3**	**4**	**5**	**6**

A. 

B. 

C. 

D. 

18.) Which of the following are in order from **greatest to least**?

A. 9/10, 3/5, 55%, 0.25
B. 3/5, 55%, 0.25, 9/10
C. 9/10, 55%, 3/5, 0.25
D. 55%, 3/5, 0.25, 9/10

19.) Robby only wears *yellow* and *orange* shirts. The ratio of *yellow to orange* shirts in his closet is 4:3. If Robby has 9 orange shirts, how many **yellow** ones does he have?

A. 15
B. 4
C. 9
D. 12

20.) When you **multiply 250 by 0.5** do you expect the answer to be:

A. < 250
B. > 250
C. = 250
D. < ½ of 250

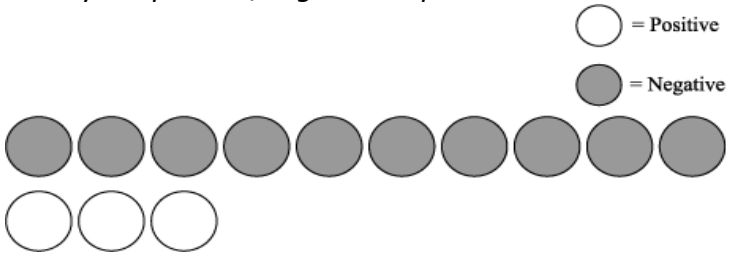
21.)Estimate the **sum** of the following fractions to the **nearest whole number**: $\frac{7}{8} + \frac{8}{9}$

A. 1
B. 2
C. 15
D. 17

22.) A cook needed **18oz** of rice to make shrimp gumbo. He had **7 ½ oz** in one package and **6 ¼ oz** in another package. How many ***more*** **ounces** does he need to make shrimp gumbo?

A. 5 ¼ oz
B. 4 ¼ oz
C. 13 ¾ oz
D. 6 ½ oz

23.) Which *equation* is *modeled* by the *positive/negative chips*?



A. 10 – 3 = 7
B. –10 + 3 = –7
C. 10 + 3 = 13
D. –10 – 3 = –13

24.) The record *low* temperature in Kentucky is **–37 degrees** Fahrenheit.
The record *high* temperature is **114 degrees** Fahrenheit. What is the difference in the temperatures?

A. –151 degrees
B. –77 degrees
C. 77 degrees
D. 151 degrees

25.) Evaluate the expression below if $\boldsymbol{n} = 10$.

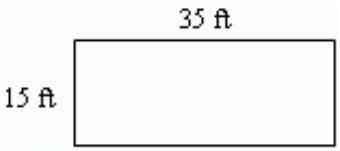
$$7^2 + \boldsymbol{n}^2$$

A. 34
B. 107
C. 117
D. 149

26.) Daisy's Flower Shop charges **$3** for each flower in an arrangement. Each arrangement also includes a vase to hold the flowers that costs **$9**. If you have **$30** to spend, what is the **largest** number of flowers you could get for a flower arrangement including a vase?

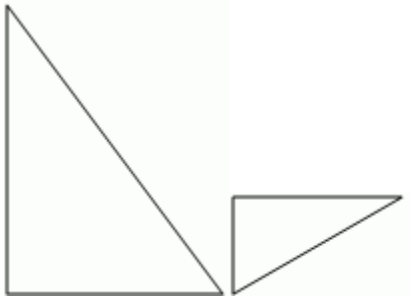
A. 3
B. 7
C. 14
D. 63

27.) Laura's dad is fencing the backyard. Look at the *diagram* and the *dimensions* to find the **Perimeter and Area** of the backyard.



A. Perimeter = 50 ft, Area = 525 ft^2
B. Perimeter = 100 ft, Area = 375 ft^2
C. Perimeter = 100 ft, Area = 525 ft^2
D. Perimeter = 575 ft, Area = 100 ft^2

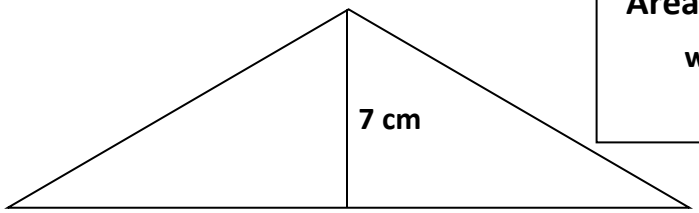
28.) Are the triangles ***congruent***? *Why or why not?*



A. **Yes**, because they are the *same size*.
B. **Yes**, the corresponding sides are *equal* and the corresponding angles are *equal*.
C. **No**, the corresponding sides are equal.
D. **No**, the triangles are *similar* because they have the *same shape*, but *not* the *same size*.

29.) Find the **area** of the *triangle*:

Area of a triangle = ½ *bh*
where *b* is the base
***h* is the height**



A. 196 cm^2
B. 98 cm^2
C. 35 cm^2
D. 17.5 cm^2

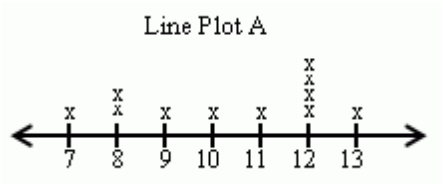
30.) A student is selected at random from a chess club of 8 girls and 8 boys.
There are 4 students from each of the 4^{th}, 5^{th}, 6^{th}, and 7^{th} grades.
Which of the following best represents the ***probability*** of selecting a 6^{th} or 7^{th} grader?

A. $\frac{1}{8}$
B. 25%
C. $\frac{1}{2}$
D. $\frac{1}{4}$

31.) Logan has ***five*** DVDs. His goal is to collect ***30 DVDs***. Which ***equation*** could Logan use to calculate how many *DVDs* are *needed* to reach his goal?

A. 5 + d = 30
B. 30 - d = 25
C. 5 - d = 30
D. 5 + 30 = d

32.) Which data is shown in **Line Plot A**?



A. 7, 13, 10, 9, 11, 11, 8, 12, 8, 12, 13

B. 8, 11, 12, 10, 7, 8, 12, 12, 13, 12, 9

C. 11, 12, 10, 10, 12, 13, 8, 9, 12, 13, 7

D. none of the above

33.) What is the **median** of the data in this stem-and-leaf plot?

Stem	Leaf
4	1 2 5 8 8
5	2 2 3 3 4 5
6	0 2 4 5 6

Key: Stem of 4 and Leaf of 1, means the number 41

A. 3

B. 52

C. 2

D. 53

When you are finished with the first 33 problems, raise your hand and the teacher will take your *calculator* and give you the *last page* of the test with problems 34 – 40.

DO <u>NOT</u> USE A CALCULATOR on problems 34 - 40.

<u>Directions:</u> Write the answers to each problem on the line provided. Show your work.

Solve the following problems.
Write your answers in *<u>simplest form</u>*:
*(NOTE: * means multiply)*

34.) **3 * (5) + 12 ÷ 3 = _____**

35.) **4 – 2.51 = _____**

36.) $\frac{3}{4}$ **+** $\frac{1}{6}$ **= _____**

37.) **365 * 0.81 = _____**

For questions 38, 39, & 40: Express the following as a fraction in *<u>simplest form</u>*, as a decimal, and as a percent:

5 out of 20 students are girls

38.) **Fraction: _____**

39.) **Decimal: _____**

40.) **Percent: _____**

BONUS QUESTION:
A ball is dropped off the roof of a *32 ft.* building. Each time it hits the ground it bounces *one-half* the previous height. Stan catches it when it bounces up to *2ft*. How many <u>total feet</u> did the ball travel?
(Hint: Sketch how the ball travels down, up, down, etc. to find the total feet.)

Total feet traveled: _____

<u>Other Contact Information About You!</u>
Please fill in all the information that you know in the spaces below.

Your Name: _____
Your Elementary School: _____
Your 5th grade Math teacher's name: _____
Name of Middle School you plan to attend: _____
Your Home Street Address: _____
Your Zip Code: _____
Your Home Phone Number: _____
Your Home/Parent E-mail Address: _____

Directions: **Please write the correct letter for each question below.** **Name: _____**

6th grade Screening Answer Sheet

1.)	18.)
2.)	19.)
3.)	20.)
4.)	21.)
5.)	22.)
6.)	23.)
7.)	24.)
8.)	25.)
9.)	26.)
10.)	27.)
11.)	28.)
12.)	29.)
13.)	30.)
14.)	31.)
15.)	32.)
16.)	33.)
17.)	