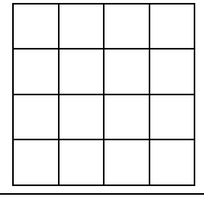
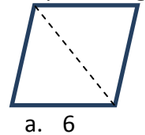
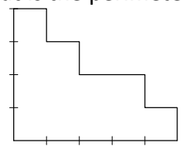
1.	What is $\frac{5\times4\times3\times2\times1}{3\times2\times1}$?	1. 20
2.	How much larger is $1+2+3+4+5+6+7+8+9+10$ than $1+2+3+4+5$?	2. 40
3.	Simplify $\frac{1}{2}+\frac{1}{3}-\frac{1}{4}$ a. $\frac{1}{9}$ b. $\frac{7}{12}$ c. $\frac{5}{12}$ d. $\frac{1}{24}$	3. a b c d ☐ ■ ☐ ☐
4.	Simplify: $\frac{1-\frac{1}{2}}{1-\frac{1}{3}}$ a. $\frac{1}{3}$ b. $\frac{4}{3}$ c. $\frac{3}{4}$ d. $\frac{1}{4}$	4. a b c d ☐ ☐ ■ ☐
5.	Express the decimal sum as a reduced fraction. $0.45+0.305+0.05$ a. $\frac{71}{200}$ b. .805 c. $\frac{805}{1000}$ d. $\frac{161}{200}$	5. a b c d ☐ ☐ ☐ ■
6.	Jenny made four purchases. She purchased 5 cats, the value $3.49 each; 6 goldfish at $ 2.89 each; 9 hamsters at 2.99 each; 15 gerbils at 1.49 each. How much did she spend?	6. $84.05
7.	What is the largest 3-digit number that can be obtained from 4921508 by crossing out 4 digits? Keep the digits in their original order.	7. 958
8.	If $a=99$ and $b=4$, find the remainder of the division $\frac{a}{b}$.	8. 3
9.	75% of a 12-slice pizza is _____ slices. a. 7 b. 8 c. 9 d. 10	9. a b c d ☐ ☐ ■ ☐
10.	What is $x+2+x+2+x+2+x+2+x+2+x+2$ if x is equal to 7?	10. 54
11.	How many numbers are equal to their reciprocals? a. One only b. Two only c. Three only d. None.	11. a b c d ☐ ■ ☐ ☐
12.	Rebecca takes 20 minutes to cut a stick of bamboo into 5 pieces. How long does it take her to cut another stick into 9 pieces?	12. 40 minutes
13.	There are 12 eggs in a carton, 8 cartons in a crate, and 9 crates in a container. How many eggs are in a container?	13. 864 eggs
14.	Eight squares are connected as shown, the length of every side is 3 inches, find the perimeter of the figure. 	14. 48 in

15.	What is the result when the largest number in the set $\left\{\frac{1}{8}, 2, \frac{1}{4}, 0.3, 8\right\}$ is divided by the smallest number in the set?	15. 64
16.	Simplify $\frac{3}{\left(\frac{1}{-3}\right)}$ a. $\frac{1}{3}$ b. 9 c.-9 d. -1	16. a b c d ☐ ☐ ■ ☐
17.	$2\div1=(22+44)\div?$ a. (2+4) b. 11 c. 22 d. (11+22)	17. a b c d ☐ ☐ ☐ ■
18.	What is 6.5% of 270?	18. 17.55
19.	Calcuate the value of s such that $8s-6=0$. a. $s=\frac{3}{4}$ b. $s=-2$ c. $s=2$ d. $s=-\frac{3}{4}$	19. a b c d ■ ☐ ☐ ☐
20.	Half of a third of a number is 1,801. What is the number?	20. 10,806
21.	Solve for x: $20x=16$. a. $x=-\frac{4}{5}$ b. $x=\frac{4}{5}$ c. $x=-4$ d. $x=320$	21. a b c d ☐ ■ ☐ ☐
22.	Solve for n: $\frac{n^2-5n}{n-6}=0$. a. $n=0,5,6$ b. $n=0$ c. $n=0,5$ d. $n=0,6$	22. a b c d ☐ ☐ ■ ☐
23.	Find the value of $\frac{1}{5+\frac{1}{5+\frac{1}{5}}}$	23. $\frac{26}{135}$
24.	Evaluate: $-1^{20}+(-1)^{21}$ a. -2 b. -1 c. 0 d. 1	24. a b c d ■ ☐ ☐ ☐
25.	Compute: $\frac{17}{32}-\frac{4}{25}$. a. $-\frac{68}{57}$ b. $-\frac{297}{800}$ c. $\frac{13}{57}$ d. $\frac{297}{800}$	25. a b c d ☐ ☐ ☐ ■
26.	Each equilateral triangle shown has a perimeter of 6. What is the perimeter of the parallelogram?  a. 6 b. 8 c. 12 d. 18	26. a b c d ☐ ■ ☐ ☐

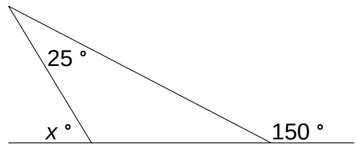
27. In the figure below, assume all the angles that appear to be right angles are actually right angles. What is the perimeter of the figure?



a. 9 b. 16 c. 17 d. 18

27. a b c d ☐☐☐■

28. Solve for x.



a. 25° b. 30° c. 55° d. 150°

28. a b c d ☐☐■☐

29. Pi's Pizza Palace sells a 6-inch diameter pizza for $6, an 8-inch diameter pizza for $8, and a 10-inch diameter pizza for $10. Which is the best buy?
a. the 6 in pie b. the 8 in pie c. the 10 in pie

29. a b c ☐☐■

30. k is an unknown number between -4 and -5. Which is the largest number?
a. $-k+5$ b. $\frac{k+4}{2}$ c. $\frac{k+2}{2}$

30. a b c ■☐☐

31. Three of these expressions are equivalent. Which one is <u>*NOT*</u>?
a. $x-y+z$
b. $x+z-y$
c. $-y-(z-x)$
d. $x-(y-z)$

31. a b c d ☐☐■☐

SPECIAL Which of the following statements is true? There may be more than one correct answer.

■ 3^5 is greater than 5^3.

☐ x^3 is always greater than x^2 when x is positive number.

☐ x is always greater than $\frac{1}{x}$ when x is positive.

■ $x+1$ is always greater than x for any number x that can be represented on the number line.

☐ If x and y are both positive numbers and if $x > y$, then $-x > -y$.

■ If x and y are both positive numbers and if $x > y$, then $-x < -y$.

☐ If x and y are both positive numbers and if $x > y$, then $\frac{1}{x}$ is always greater than $\frac{1}{y}$.

☐ If x and y are both positive numbers, then x always equals y.

12th Annual
Oklahoma School of Science and Mathematics
Middle School Mathematics: An Awesome Contest
March 8, 2014

NAME: (Please print) _____ **Email:** _____	**AGE** _____	**DATE OF BIRTH** mm / dd / yy __ __ / __ __ / __ __	**GRADE LEVEL** **6**
SCORE (For official use) P1 _____ P2 _____ P3 _____ Total: _____ TB: Y N	**GENDER (Circle one)** **M F**	**HOME ADDRESS** (Please print) Street _____ City _____ Zip _____ School _____	

Parents' names: (Please print)

Directions: Use the scratch paper provided to do your work. Calculators are allowed, but not necessary. Write the answer(s) to each question in the box to the right of the question. Units are given in plural form even if the singular form is correct. <u>All fractions should be in simplest form</u>, $\frac{3}{2}$ not $1\frac{1}{2}$.

This is a 31-question, 1-hour contest. The special question on the last page may be used to break ties. Each question is worth one point. Your score will be the number of correct answers (excluding the tie-breaker). There is no partial credit or penalty for wrong answers. Please continue working or reworking problems until time is called.

Do Not Open or Turn Over Until Instructed To Do So