ALL

Pre-Algebra 7th Grade

Basic Skills Work

***Start with the ODDS!!!**

Integers, OOO, CLT, exponents

1) $-9-(-7)+1=$ -1

$-9+7+1$

$-2+1=-1$

2) $12-(4\cdot5)+10-44^0=$ 1

$12-20+10-1$

$-8+10-1$

$2-1$

3) $-9\div-3=$ 3

4) $3x+4y-8x+13y+50x=$ 45x + 17y

5) $1.21+(-32.1)=$ -30.89

$38.10-1.21=30.89$

6) $-5.6+(-32.111)=$ -37.711

$32.111+5.600=37.711$

7) $6gh+9k-4hg+10k=$ 2gh + 19k

same

$6gh-4gh=2gh$ $\quad 9k+10k=19k$

8) $18\div3\cdot4\div8+11=$ 14

$6\cdot4\div8+11$

$24\div8+11$

$3+11=14$

9) Name all prime numbers that are less than 25

2, 3, 5, 7, 11, 13, 17, 19, 23 *One is NOT prime

10) Evaluate the expression below when x = 7, y = 3, and z = –1

$3x+12y-6z+yz=$ 60

$3(7)+12(3)-6(-1)+(3)(-1)$

$21+36+6-3$

$57+6-3$

$63-3$

11) $(-3)^3=$ -27

$(-3)(-3)(-3)$

$9(-3)=-27$

12) $(-8)(-4)=$ 32

13) $-(2)^2=$ -4

$-(2)(2)$

-4

Solving multi-step equations with variables on 1 side

14) $11x + 5 = 104$

$-5 \quad -5$

$\frac{11x}{11} = \frac{99}{11}$

$x = 9$

15) $4(x + 3) - 2x = 62$

$4x + 12 - 2x = 62$

$2x + 12 = 62$

$-12 \quad -12$

$\frac{2x}{2} = \frac{50}{2}$

$x = 25$

16) $5x + 8 - x + 10 = 22$

$4x + 18 = 22$

$-18 \quad -18$

$\frac{4x}{4} = \frac{4}{4}$

$x = 1$

17) $x \div 7 = 20$

$\cdot 7 \quad \cdot 7$

$x = 140$

18) $\frac{3x}{3} = \frac{75}{3}$

$x = 25$

19) $5 - y = -41$

$-5 \quad -5$

$\frac{-y}{-1} = \frac{-46}{-1}$

$y = 46$

Solving multi-step equations with variables on both sides

20) $8x - 2 = -9 + 7x$

$-7x \quad -7x$

$x - 2 = -9$

$+2 \quad +2$

$x = -7$

21) $5n + 34 = -2(1 - 7n)$

$5n + 34 = -2 + 14n$

$-5n \quad -5n$

$34 = -2 + 9n$

$+2 \quad +2$

$\frac{36}{9} = \frac{9n}{9}$

$n = 4$

22) $3n - 5 = -8(6 + 5n)$

$3n - 5 = -48 - 40n$

$+40n \quad +40n$

$43n - 5 = -48$

$+5 \quad +5$

$\frac{43n}{43} = \frac{-43}{43}$

$n = -1$

23) $2x - 4 = 10x$

$-2x \quad -2x$

$\frac{-4}{8} = \frac{8x}{8}$

$x = -\frac{1}{2}$ or -0.5

24) $18x + 2y = 4 + 6x + 2y$

$-2y \quad -2y$

$18x = 4 + 6x$

$-6x \quad -6x$

$\frac{12x}{12} = \frac{4}{12}$

$x = \frac{1}{3}$ or $0.\overline{3}$

25) $\frac{1}{2}(8x + 16) = 20x - 1$

$4x + 8 = 20x - 1$

$-4x \quad -4x$

$8 = 16x - 1$

$+1 \quad +1$

$\frac{9}{16} = \frac{16x}{16}$ $\quad x = \frac{9}{16}$

Operations with fractions

26) $\frac{1}{5} + \frac{3}{4} =$

$\frac{4}{20} + \frac{15}{20} = \frac{19}{20}$

27) $\frac{4}{10} - \frac{7}{10} = \frac{-3}{10}$

28) $-\frac{1}{2} - -\frac{1}{3} =$

$-\frac{1}{2} + \frac{1}{3}$

$-\frac{3}{6} + \frac{2}{6} = \frac{-1}{6}$

29) $\frac{12}{15} \cdot \frac{3}{20} =$

$\frac{3}{25}$

30) $\frac{10}{21} \div \frac{7}{3} =$

$\frac{10}{21} \cdot \frac{3}{7} = \frac{10}{49}$

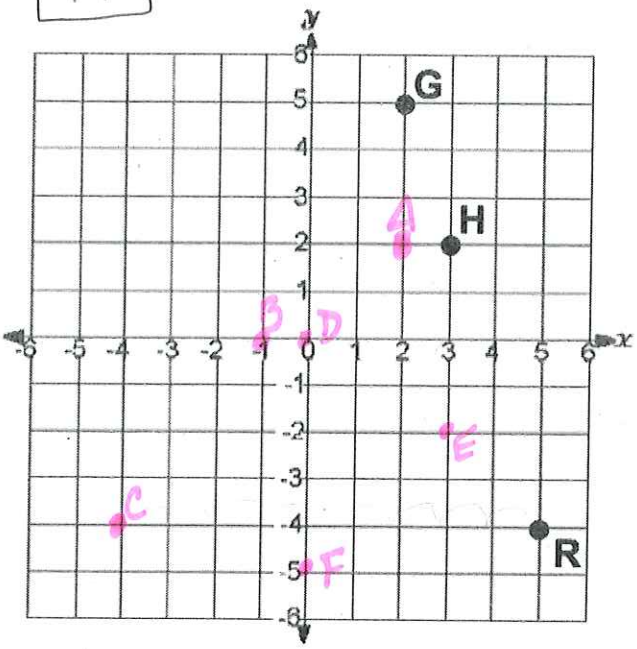
31) $\frac{4}{11} \cdot \frac{5}{8} \div \frac{9}{2} =$

$\frac{5}{22} \cdot \frac{2}{9} = \frac{5}{99}$

Introduction to graphing & distance between two points

On the graph provided, plot points A-F and label with the correct letter near each point.

A (2, 2) B (- 1, 0)
C (-4,-4) D (0, 0)
E (3, -2) F (0 , -5)



32) What is the distance between A and G? 3 units

33) What is the distance between C and R? 9 units

34) What is the distance between B and D? 1 unit

35) What is the distance between E and H? 4 units

36) The horizontal axis is called the X axis.

37) The vertical axis is called the Y axis. Like a yo-yo its goes up and down

Quadrilaterals, Triangles, and Trapezoids

38) Quadrilaterals have 4 sides. The sum of all interior angles = 360 degrees.

39) Triangles have 3 sides and the sum of all three angles adds up to 180 degrees.

40) If the area of a rectangle is 45 square feet and the width is 9 feet, what is the length? 5 ft.

41) The perimeter of an equilateral triangle is 51 cm. What is the length of each side? 17 cm
45÷9

42) Isosceles triangles have three sides that are the same length. True or (False)? False
51÷3

43) Scalene triangles have three sides that are all different lengths. (True) or False? True

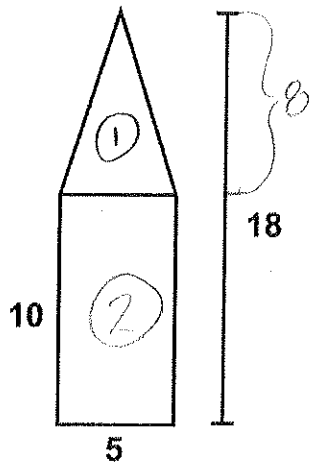
44) A rectangle can also be considered a square. True or (False)? False

45) The area formula for a square/rectangle is A = b x h. (True) or False? True

46) What is area formula for a triangle? $\frac{1}{2}bh$ or $\frac{bh}{2}$

47) Write the formula for a trapezoid? $\frac{1}{2}h(b_1+b_2)$ or $h(\frac{b_1+b_2}{2})$

48) Find the area of the composite shape:



Shape 1: $\frac{bh}{2} = \frac{5 \cdot 8}{2} = \frac{40}{2} = 20$

Shape 2: $b \cdot h = 5 \cdot 10 = 50$

$+$

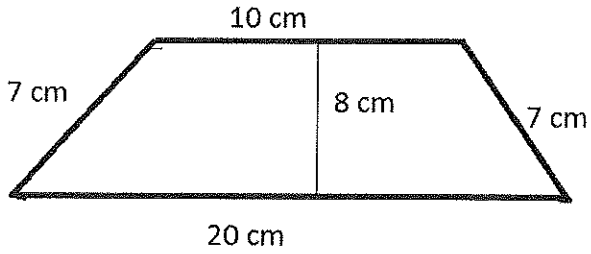
$70\ u^2$

49) Find the area of the trapezoid:

$\frac{1}{2}h(b_1+b_2)$

$\frac{1}{2}(8)(20+10)$

$4(30) = 120\text{cm}^2$



Percent

Complete the table.

Fraction	*Decimal*	*Percent*
$\frac{2}{5}$	50.) .4	51.) 40%
52.) $12\frac{7}{10}$	12.7	53.) 1,270%
54.) $\frac{14}{100} = \frac{7}{50}$	55.) .14	14%

Solve:

56.) $\frac{5}{4} = \frac{n}{18}$

$\frac{90}{4} = \frac{4n}{4}$

$n = 22.5$

57.) $\frac{6}{5} = \frac{m}{10}$ (×2, ×2)

$m = 12$

58.) $\frac{7}{9} = \frac{a}{a-8}$

*Use distributive property

$9a = 7(a-8)$

$9a = 7a - 56$

$-7a \quad -7a$

$\frac{2a}{2} = \frac{-56}{2}$

$a = -28$

Probability

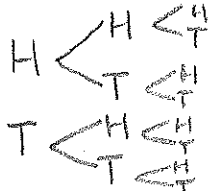
A bag of candies contains 8 lemon, 2 grape, 7 cherry and 3 lime.

59) What is the probability of getting a lemon? $\frac{8}{20} = \frac{2}{5}$ or 40%

60) What is the probability of getting a cherry? $\frac{7}{20}$ or 35%

61) What is the probability of getting a grape OR lime? $2+3 = \frac{5}{20}$ $\frac{1}{4}$ or 25%

62) What is the probability of getting heads three times in a row when flipping a coin?



$\frac{1}{8}$