

Name: _____

SUMMER PACKET ENTERING EIGHTH GRADE

1) Write in scientific notation:
-41000

2) Write in scientific notation:
27000000

3) Write in decimal notation:
 -1.8×10^7

4) Write in decimal notation:
 -1.4×10^3

5) Write in scientific notation:
0.00000024

6) Write in scientific notation:
0.0000015

7) Write in decimal notation:
 1.6×10^{-9}

8) Write in decimal notation:
 3.6×10^{-9}

Solve:

9) Which is different?

71.429%, 7.1429, $\frac{50}{7}$
 7.1429×10^0 ,

10) Which is different?

166.667%, 16.6667, $\frac{100}{6}$
 1.66667×10^1 ,

11) Write the following numbers in order from greatest to least:
-3, -43, -17

12) Write the following numbers in order from least to greatest:
-13, 19, 30

- 13) Write the following numbers in order from greatest to least: 14) Write the following numbers in order from greatest to least:

$$\frac{-41}{14}, \frac{32}{13}, \frac{11}{46}$$

$$\frac{-6}{41}, \frac{4}{3}, \frac{-37}{26}$$

- 15) Write the following numbers in order from least to greatest: 6.98, -1.7, 4.68 16) Write the following numbers in order from greatest to least: 4.74, 0.6, 5.37

Find the error: (Where does the error occur?)

- 17) Line 1: $(8 + 10)^2 - 5 \cdot 4$
 Line 2: $(8 + 100) - 5 \cdot 4$
 Line 3: $108 - 5 \cdot 4$
 Line 4: $108 - 20$
 Line 5: 88

- 18) Line 1: $(6 + 2)^2 - 11 \cdot 11$
 Line 2: $(8)^2 - 11 \cdot 11$
 Line 3: $64 - 11 \cdot 11$
 Line 4: $64 - 121$
 Line 5: -57

Solve:

- 19) Evaluate: $17 + 5x(-3x^2 + 3x + 1)$ when $x = 4$. 20) Evaluate: $-x(-3x^2 + 3x + 1) - 20$ when $x = 4$.

Name the Property (example: associative property of multiplication)

21) $-5 \cdot 4 = 4 \cdot -5$

22) $(3 + -2) + -5 = 3 + (-2 + -5)$

23) $-2 \cdot (-1 + -2) = -2 \cdot -1 + -2 \cdot -2$

24) $-1 \cdot (-1 + 1) = -1 \cdot -1 + -1 \cdot 1$

Fill in the blank using the distributive property:

25) $(3 + 4)2 = \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$

26) $(3 - 3)6 = \underline{\hspace{4cm}}$

Solve:

27) Craig takes part in a walk-a-thon. Mr. Evans donates \$43.40 plus \$3.10 for each mile Craig walks. If Craig walks 3 miles, how much will Mr. Evans owe?

28) You are told to go to the store to get 2 grape bunches at \$4.55 each and 11 hamburgers at \$4.54 each. Since you are in the state of Nevada, sales tax is 6.85%. How much money do you expect to spend?

29) While shopping for a gift, you find the perfect pair of tennis shoes on sale for 15% off its original \$73.46 price. How much will you pay for the pair of tennis shoes?

30) Deb borrows \$290 at 3.5% simple interest per month. When Deb pays the loan back 10 years later, how much interest does Deb pay?

Solve. Explain how you get the answer without using a calculator:

31) $|-47| =$

32) $|46| =$

33) $11 + -3 =$

34) What do you get when you add an even number and an odd number?

35) $10 - -10 =$

36) $5 - -11 =$

37) $(1)^2$

38) $12 \cdot 11 =$

39) $30 \div 5 =$

40) $-36 \div 12 =$

Solve:

- 41) Annie is 21 years older than Zachary. In 10 years Annie will be twice as old as Zachary is. How old are they now?
- 42) There is a special at the store: \$42 for 4 speakers. Molly is trying to figure out if it's a good deal. Help Molly figure out the unit price (round to 2 decimal places)
- 43) A display case of CDs are marked 20 for \$1. If Opal wants to buy 100 CDs, how much will Opal spend (not including tax)?
- 44) A display case of ties are marked 14 for \$11. If Sara has \$99, how many ties can Sara get? (Assume no tax or other fees.)
- 45) If the ratio of walnuts to oranges to nectarines is 6:7:7, how many walnuts are there if the total number of fruits is 180?
- 46) What would you use to find the length of an edge of a pool?

Find the Area

47) Find the area:

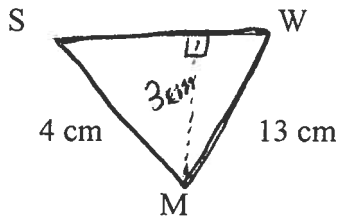
10 ft

3 ft



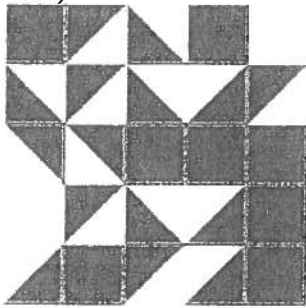
Find the Area

48)



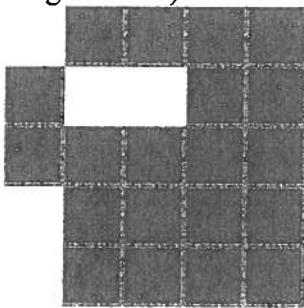
Solve:

49) Find the area: (Squares have side length 1 unit)



50) Find the perimeter of a square with side length 8 in

51) Find the perimeter: (Squares have side length 1 unit)

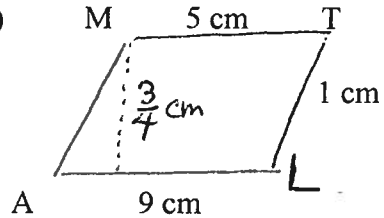


52) What is the area of a circle with diameter = 42 in?

53) What is the circumference of a circle with radius = 1 cm?

Find the area:

54) Find the area of a triangle with a base of 8 in and height of 1 in

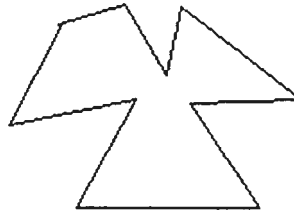


56) Find the area of a parallelogram with a base of 5 in and height of 2 in

57) What is an eight sided polygon called?

Solve:

58)



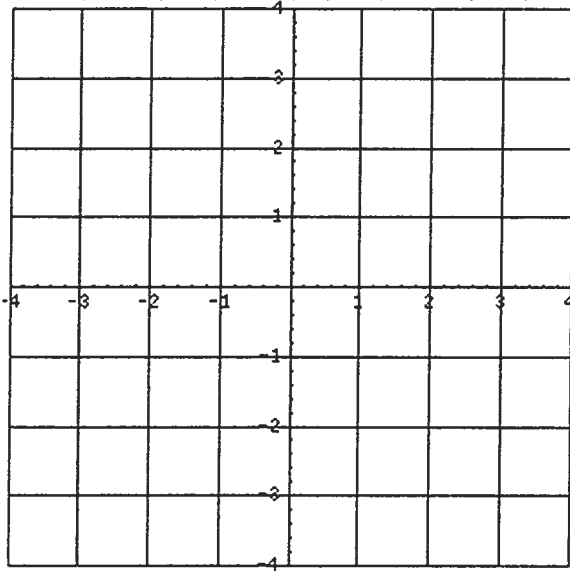
59)



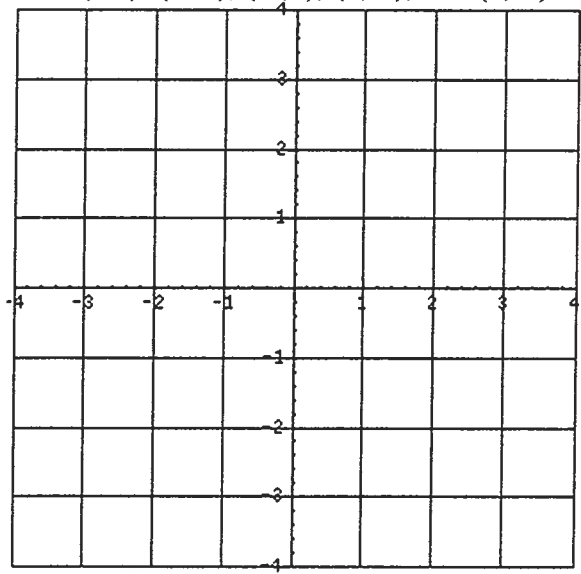
60) What is a polygon with 9 sides called?

Graph the points

61) Plot: $(2,2)$, $(-4,0)$, $(3,3)$, $(3,-1)$, and $(3,-2)$

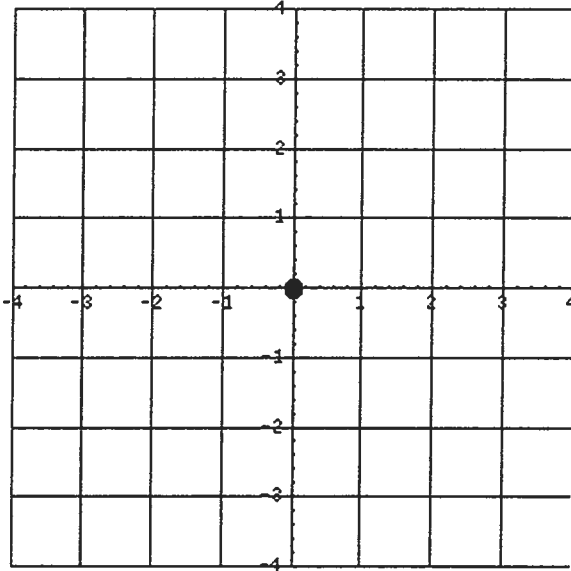


62) Plot: $(2,3)$, $(3,-1)$, $(-3,4)$, $(1,-2)$, and $(4,-1)$

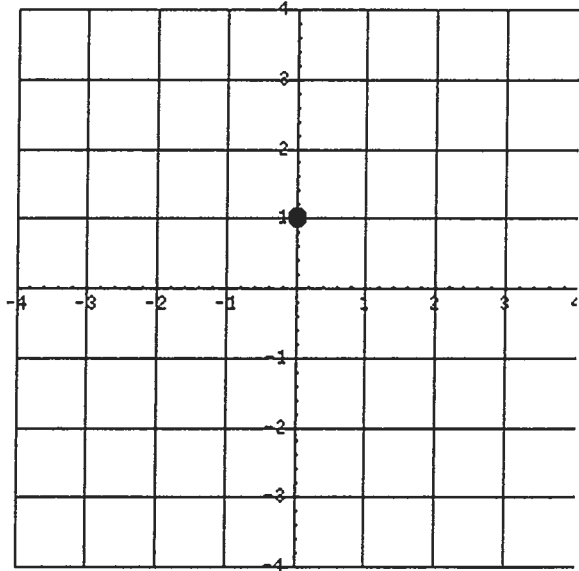


Solve:

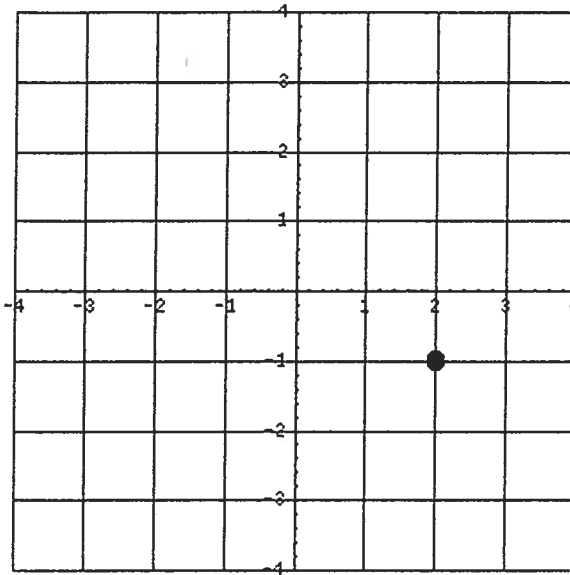
63) Write the Coordinates:



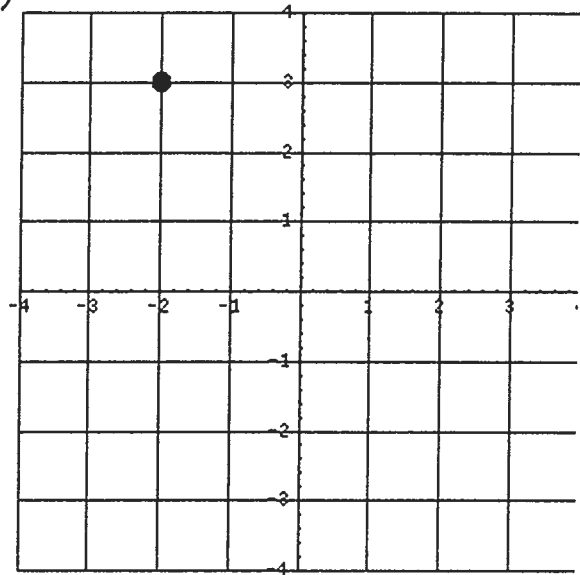
64) Write the Coordinates:



65) Write the Coordinates:

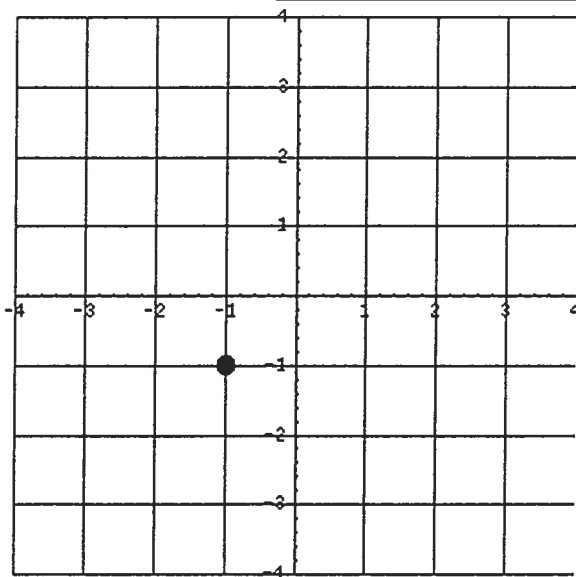


66) Write the Coordinates:



Which Quadrant does the point lie in?:

67)



68) $(-8, 2)$

Identify the Key words.

69) Find the word(s) that mean add:
Last week's nickels added to this week's
nickels yields how many nickels?

74) Find the word(s) that mean subtract:
Cathy and Gill have 14 phones left.

71) Find the word(s) that mean multiply:
Tanya's nickels times Dan's nickels make
\$4.

72) Find the word(s) that mean divide:
Split Nancy's spoons among 5 people.

Translate the Verbal Statements: (be sure to define your variables!)

73) Deb has 22 sunglasses. If Ralph's
sunglasses is increased by 4, then Ralph
will have the same amount of sunglasses as
Deb. How many sunglasses does Ralph
have?

74) Heather has 16 less sunglasses than she had
yesterday. If she had 21 sunglasses
yesterday, how many does Heather have
today?

75) 10 is what fraction of 40?

76) Sara's pears are going to be split among her
13 friends. If each friend averages 4 pears,
how many pears did she start with?

Translate the Verbal Statements:

77) One half of the quantity of two minus a
number

78) One divided by the sum of two and a
number equals nine.

Is this an expression, an equality or an inequality?:

79) One minus a number minus one

80) The difference between five and three less
than a number

81) **Solve:**
Identify the variable: $5d$

82) **Solve:**
Identify the degree: 16

83) **Solve:**
What is the degree of -5 ?

84) **Circle the Correct Answer:**
 $4m^4 - 2d^3 + d^2 + n - 4 = 3m - 3y^2 - 5e^3 - 5m^4$ is an expression/equality/inequality.

85) **Circle the like terms:**
 $3u^2, 5u, 3, 3u$

86) **Simplify:**
 $-3s^2 - 2s^2$

87) **Simplify:**
 $(3)(9m^3)$

88) **Simplify:**
 $-2(-2x - 3)$

89) **Solve:**
Does $x = -3$ solve $2 = x + 5$?

90) **Solve for x:**
 $x - 1 = -4$

91) **Solve for x:**
 $x + 3 = -3$

92) **Solve for x:**
 $-2x = 2$

93) **Solve:**
Each year Ian earns a \$2700 winter bonus. If Ian earned \$173340 last year, how much does Ian make in a month?

94) **Is it a solution?**
Is $x = -1$ a solution of: $-2 \geq -4x$

95) Solve for x:
 $x + 2 < 2$

96) Solve for x:
$$\frac{x}{4} \geq 4$$

97) Solve for x:
 $-2x > -3$

98) Solve for x:
 $-2x \leq 10$

99) Solve for x:
 $3x \geq -3$

100) Graph:
 $-1 < x$



101) Solve for e
 $e - y = k$

102) Solve for d.
 $g + d = w$

103) Solve for v
$$\frac{v}{g} = g$$