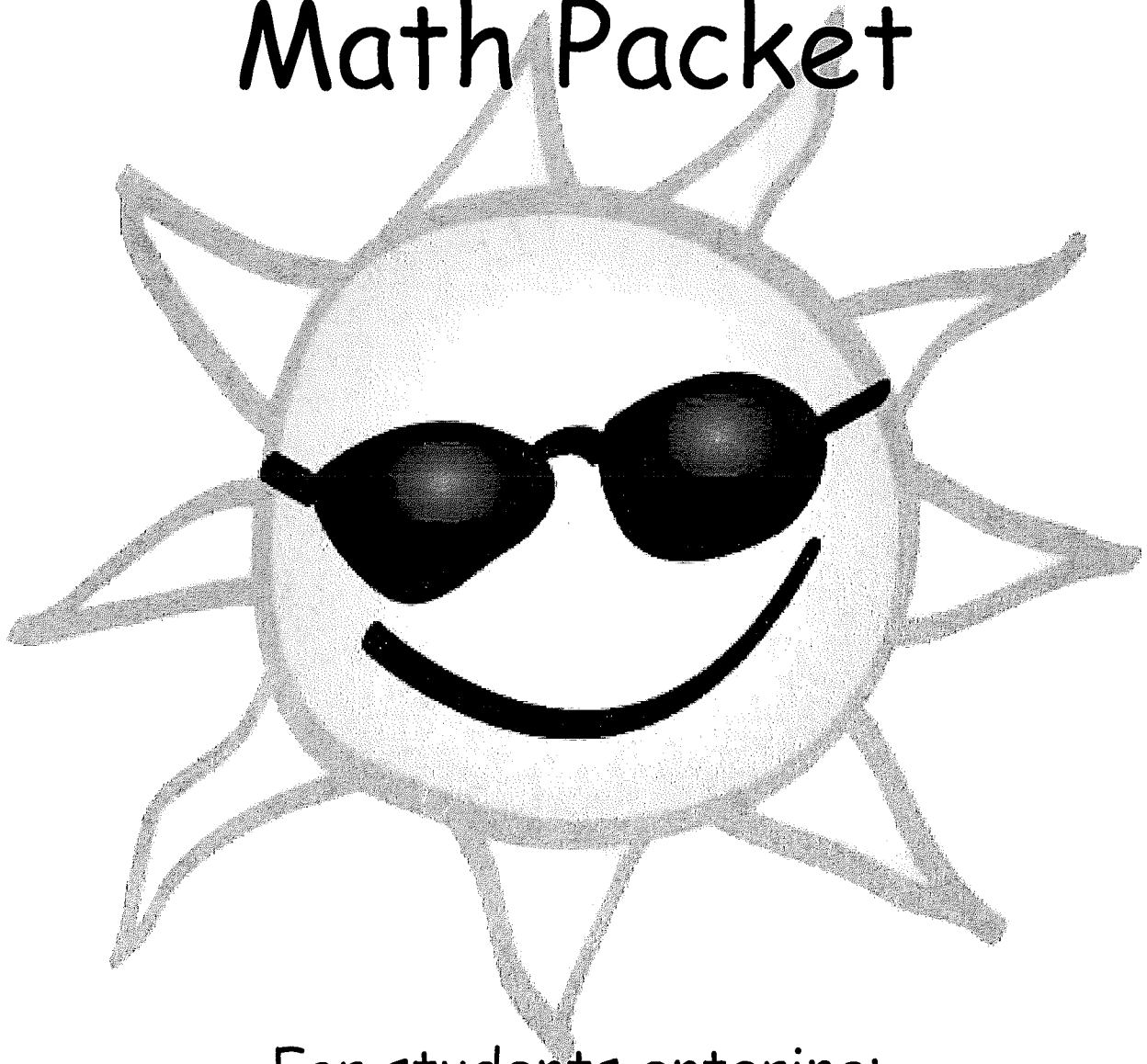


Summer Math Packet



For students entering:

Math 8/Transition Math 8

Name: _____

FRACTIONS: Solve the following problems with fractions. Calculators are not permitted. **SHOW YOUR WORK!**

1) $\frac{7}{10} + \frac{1}{10}$

2) $\frac{5}{6} - \frac{1}{6}$

3) $3\frac{1}{4} + 1\frac{3}{4}$

5) $1\frac{2}{5} + 6\frac{8}{15}$

6) $5\frac{1}{9} - 2\frac{5}{6}$

7) $\frac{1}{3} \times \frac{4}{5}$

8) $12 \times \frac{3}{4}$

9) $5\frac{3}{4} \times 10\frac{2}{3}$

10) $\frac{3}{4} \div \frac{5}{8}$

11) $9 \div 4\frac{2}{3}$

12) $4\frac{1}{6} \div 3\frac{2}{5}$

SIMPLIFYING EXPRESSIONS - combine like terms.

1) $3x + 2x + 7x$

2) $5x + 2b + 3x + 5b$

3) $3 + 2x + 4 + 2x$

4) $6y + 5 - y$

5) $8a + 4 - 4a$

6) $15 + 4x - 7$

7) $6x + 2 + 3x + 4$

8) $2n + 12 + 3n - 3$

9) $3(x + 4) + 2$

EQUATIONS: Solve for x. **SHOW YOUR WORK!**

1) $x - 8 = 24$

2) $x + 4 = 38$

3) $x - 16 = -24$

7) $3x = 39$

8) $9x = 117$

9) $-2x = -400$

10) $\frac{x}{3} = 20$

11) $\frac{x}{4} = 15$

12) $\frac{x}{-5} = -14$

13) $8 = -5r + 18$

14) $3x + 14 = -1$

16) $-3x + 1 = -5$

FRACTIONS, DECIMALS, PERCENTS

FRACTION	=	DECIMAL	=	PERCENT
$\frac{1}{4}$				
				45%
$\frac{3}{10}$				
		0.4		
				80%
		0.5		

The Distributive Property

Simplify each expression. (Expand)

1) $6(1 - 5m)$

EX: $-2(1 - 5v)$
 $-2 \cdot 1 - (-2 \cdot 5v)$
 $-2 - (-10v)$
 $-2 + 10v$

3) $3(4 + 3r)$

4) $3(6r + 8)$

5) $4(8n + 2)$

6) $-(-2 - n)$

7) $-6(7k + 11)$

8) $-3(7n + 1)$

9) $-6(1 + 11b)$

10) $-10(a - 5)$

11) $-3(1 + 2v)$

12) $-4(3x + 2)$

13) $(3 - 7k) \cdot -2$

14) $-20(8x + 20)$

15) $(7 + 19b) \cdot -15$

16) $(x + 1) \cdot 14$

Combining Like Terms

Simplify each expression.

1) $-6k + 7k$

2) $12r - 8 - 12$

3) $n - 10 + 9n - 3$

4) $-4x - 10x$

5) $-r - 10r$

6) $-2x + 11 + 6x$

7) $11r - 12r$

8) $-v + 12v$

9) $-8x - 11x$

10) $4p + 2p$

11) $5n + 11n$

12) $n + 4 - 9 - 5n$

13) $12r + 5 + 3r - 5$

14) $-5 + 9n + 6$

Two-Step Equations With Integers

Solve each equation.

$$1) \frac{r}{10} + 4 = 5$$

$$2) \frac{n}{2} + 5 = 3$$

$$3) 3p - 2 = -29$$

$$4) 1 - r = -5$$

$$5) \frac{k-10}{2} = -7$$

$$6) \frac{n-5}{2} = 5$$

$$7) -9 + \frac{n}{4} = -7$$

$$8) \frac{9+m}{3} = 2$$

$$9) \frac{-5+x}{22} = -1$$

$$10) 4n - 9 = -9$$

$$11) \frac{x+9}{2} = 3$$

$$12) \frac{-12+x}{11} = -3$$

$$13) \frac{-4+x}{2} = 6$$

$$14) -5 + \frac{n}{3} = 0$$

Multi-Step Equations

Solve each equation.

1) $6a + 5a = -11$

2) $-6n - 2n = 16$

3) $4x + 6 + 3 = 17$

4) $0 = -5n - 2n$

5) $6r - 1 + 6r = 11$

6) $r + 11 + 8r = 29$

7) $-10 = -14v + 14v$

8) $-10p + 9p = 12$

9) $42 = 8m + 13m$

10) $a - 2 + 3 = -2$

Distribute FIRST!

11) $18 = 3(3x - 6)$

12) $30 = -5(6n + 6)$

Evaluating Variable Expressions

Evaluate each using the values given.

1) $n^2 - m$; use $m = 7$, and $n = 8$

2) $8(x - y)$; use $x = 5$, and $y = 2$

EX. $n^2 - m$
 $(8^2) - 7$
 $64 - 7$
 $\boxed{57}$

3) $yx \div 2$; use $x = 7$, and $y = 2$

4) $m - n \div 4$; use $m = 5$, and $n = 8$

5) $x - y + 6$; use $x = 6$, and $y = 1$

6) $z + x^3$; use $x = 1$, and $z = 19$

7) $y + yx$; use $x = 15$, and $y = 8$

8) $q \div 6 + p$; use $p = 10$, and $q = 12$

9) $x + 8 - y$; use $x = 20$, and $y = 17$

10) $15 - (m + p)$; use $m = 3$, and $p = 10$

11) $10 - x + y \div 2$; use $x = 5$, and $y = 2$

12) $p - 2 + qp$; use $p = 7$, and $q = 4$

Name : _____

Score : _____

Teacher : _____

Date : _____

Translate Algebraic Expressions

Words and Phrases to Math Symbols

1) 2 times the sum of m and 3

2) Two-fifths of the sum of n and 8

3) z cubed minus the product of 6 and w plus 4

4) Two-fifths of g is added to the product of 8 and z

5) Add five-sixths to 8 times f

6) Two-thirds of p is subtracted from 7

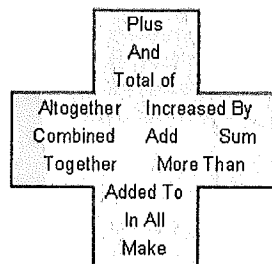
7) One-fifth of the sum of w and 2 minus the product of 7 and s

8) Three-fifths of k is added to 5

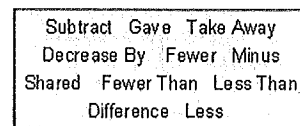
9) Add 8 to 7 times b

10) The sum of one-fourth of y, one-fifth of c, and 9

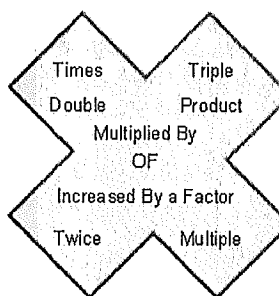
Addition



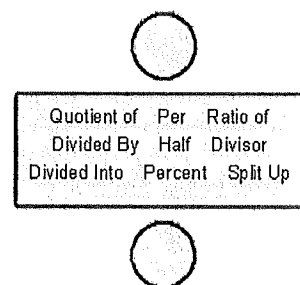
Subtraction



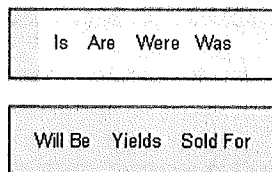
Multiplication



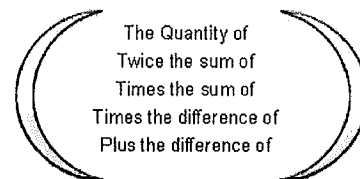
Division



Equals



Parenthesis Words



Translating Phrases

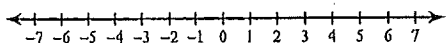
Translate each verbal phrase into an algebraic expression: (*inequality*)

1) 5 is not more than x _____	2) Value of x is greater than or equal to 14 _____
3) x is greater than or equal to 12 _____	4) 6 is not less than x _____
5) Value of x is greater than 7 _____	6) x is greater than 15 _____
7) x is not more than 13 _____	8) 9 is less than or equal to x _____
9) Value of x is atleast 1 _____	10) Value of x is less than 14 _____
11) Value of x is less than or equal to 10 _____	12) x is more than 3 _____
13) 16 is less than x _____	14) Value of x is atmost 8 _____
15) Value of x is not greater than 18 _____	16) 2 is more than x _____

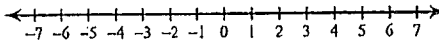
Graphing Inequalities

Draw a graph for each inequality.

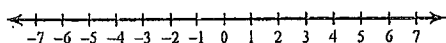
1) $n \leq -5$



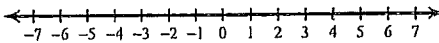
2) $n \leq 5$



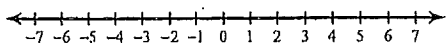
3) $x < 1$



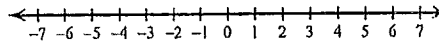
4) $r > 2$



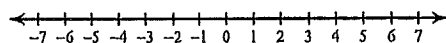
5) $n > 5$



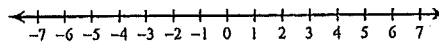
6) $r \leq -2$



7) $k \leq -2$



8) $m < -5$



$>$	\geq	$<$	\leq
Is more than Is greater than Is larger than above	minimum at least Is not less than not smaller than	Is smaller than Is less than below	maximum at most not more than Is not greater than

INTEGERS: All students should be able to add, subtract, multiply, and divide integers. Calculators are not permitted.

- | | | | |
|-------------------|---------------------|---------------------|------------------------------|
| 1) $-10 + (-10)$ | 2) $-6 + (-10)$ | 3) $-8 + 15$ | 4) $-13 + (-3) + 2$ |
| 5) $-3 - 6$ | 6) $-2 - (-9)$ | 7) $13 - 19$ | 8) $-14 - 16 + 4$ |
| 9) 4×-4 | 10) -15×-2 | 11) -12×-7 | 12) $-4 \times -3 \times -6$ |
| 13) $-15 \div -3$ | 14) $25 \div 5$ | 15) $-56 \div 7$ | 16) $-100 \div -5$ |

EXPONENTS - evaluate

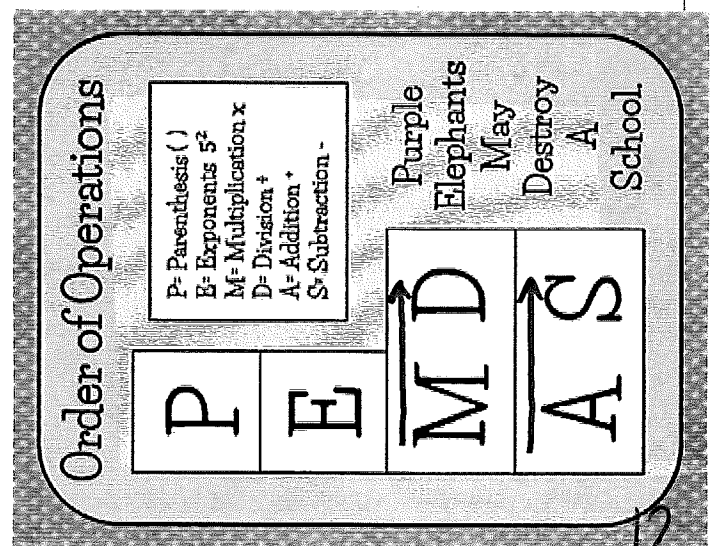
- | | | | | |
|----------|----------|----------|----------|----------|
| 1) 3^2 | 2) 5^3 | 3) 1^7 | 4) 0^8 | 5) 8^4 |
|----------|----------|----------|----------|----------|

ORDER OF OPERATIONS: Simplify the following expressions using the order of operations. **SHOW YOUR WORK!**

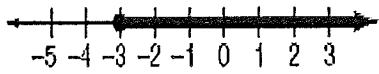
- | | | |
|-----------------------|-----------------------|--------------------------|
| 1) $7 \cdot 4 \div 2$ | 2) $2^2 \cdot 8 - 10$ | 3) $(5+4) \cdot 7$ |
| 4) $(5 + 3)^2 - 4$ | 5) $36 - 5^2 + 7$ | 6) $4 + 6(5 - 2) \div 3$ |

7) $\frac{15-7}{3+1}$

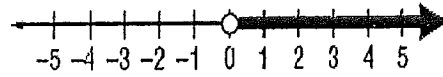
8) $\frac{9+3}{3+3^2}$



1.) Write an inequality for the graph.

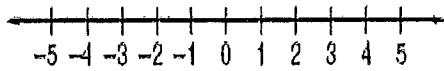


2.) Write an inequality for the graph.



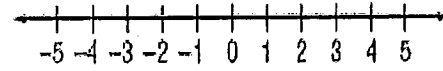
3.) Graph the inequality.

$$b \geq -1$$



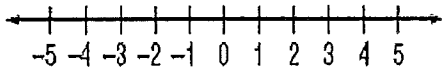
4.) Graph the inequality.

$$z < 3$$



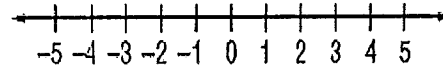
5.) Solve the inequality, then graph it on the number line.

$$y + 9 \leq 13$$



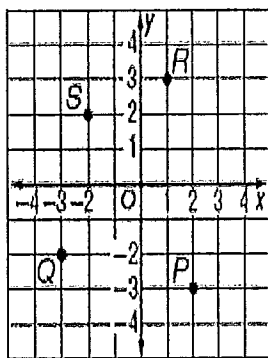
6.) Solve the inequality, then graph it on the number line.

$$4x - 6 > -10$$



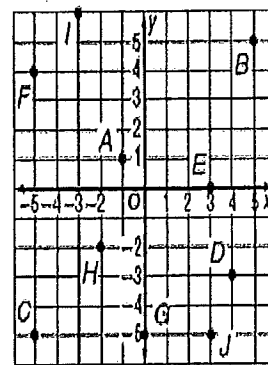
1.) Name the ordered pair for each point graphed at the right. Then identify the quadrant in which each point lies.

Coordinates	Quadrant
P (__, __)	___
Q (__, __)	___
R (__, __)	___
S (__, __)	___



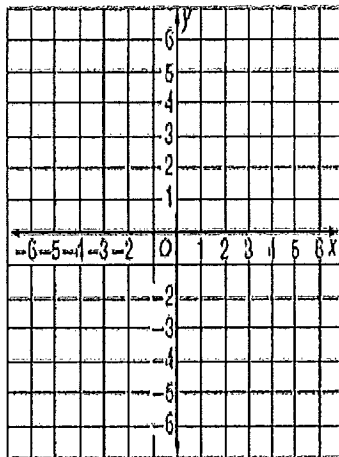
2.) Find each of the points below on the coordinate plane. Then identify the quadrant in which each point lies.

Coordinates	Quadrant
A (__, __)	___
J (__, __)	___
B (__, __)	___
H (__, __)	___



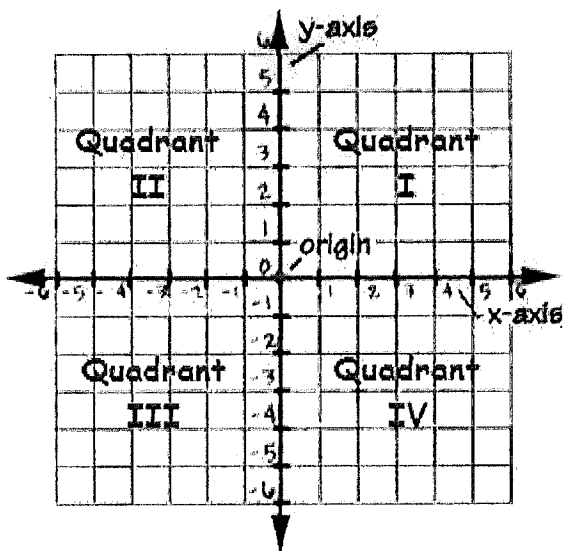
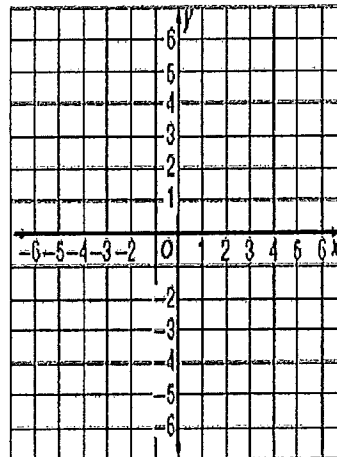
3.) Graph and label each point on the coordinate plane.

N	(3, -1)
P	(-2, 4)
Q	(-3, -4)
R	(0, 0)
S	(-5, 0)



4.) Graph and label each point on the coordinate plane.

D	(0, 4)
E	(5, 5)
G	(-3, 0)
H	(-6, -2)
J	(0, -2)

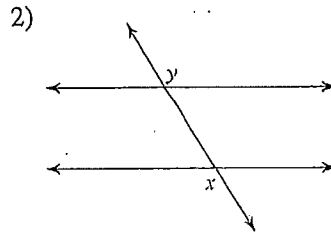
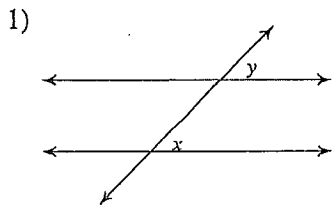


1.) Write 15^4 as a product of the same factor.	2.) Write 2^7 as a product of the same factor.
3.) Evaluate 7^3 .	4.) Evaluate 8^4 .
5.) Write $9 \cdot 9 \cdot 9 \cdot 9 \cdot 9$ in exponential form.	6.) Write $12 \cdot 12 \cdot 12$ in exponential form.

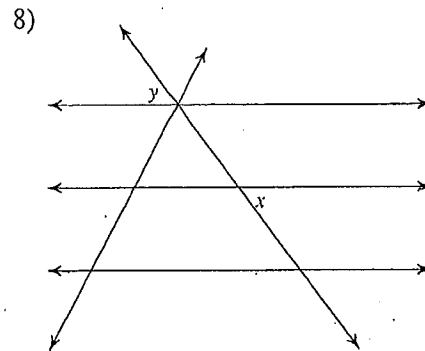
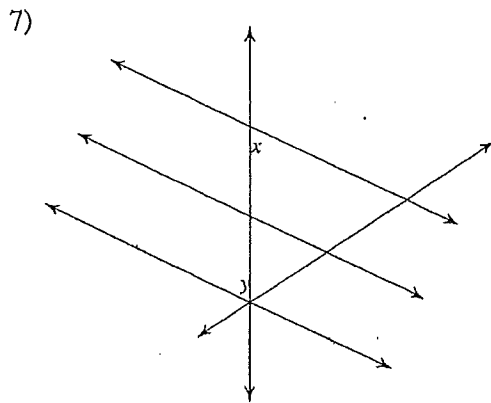
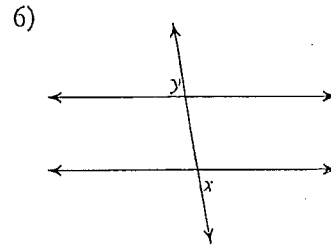
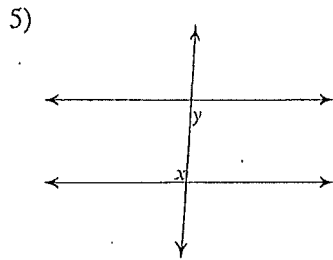
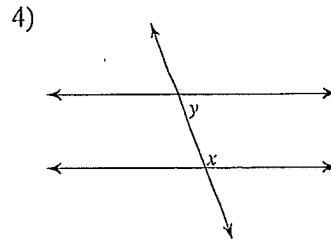
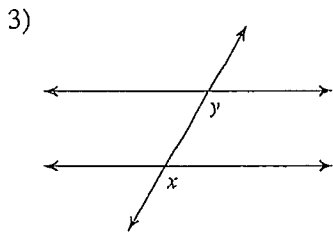
1.) Evaluate: $13^2 =$	2.) Evaluate: $\sqrt{81} =$
3.) Evaluate: $(-4)^3 =$	4.) Evaluate: $\sqrt{100} =$
5.) Evaluate: $(-2)^2 =$	6.) Evaluate: $\sqrt{36} =$

Parallel Lines and Transversals

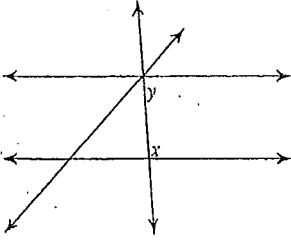
Identify each pair of angles as corresponding, alternate interior, alternate exterior, or consecutive interior.



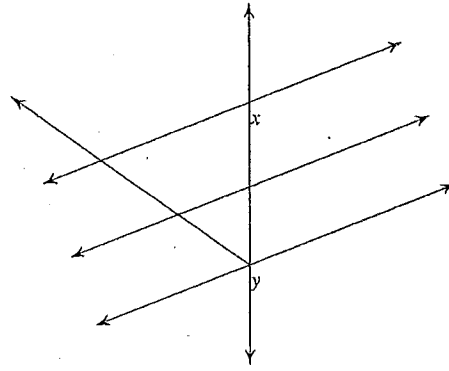
same-side
interior



9)

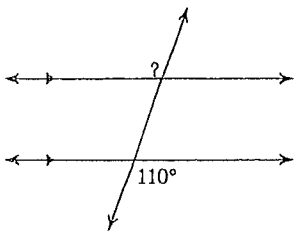


10)

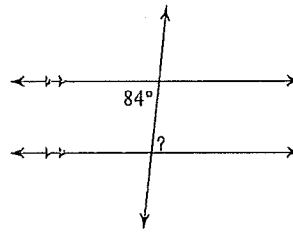


Find the measure of each angle indicated.

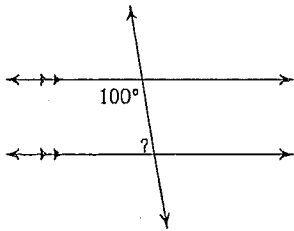
11)



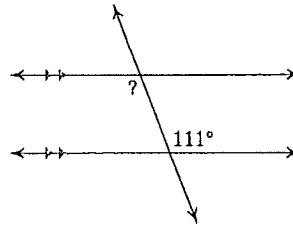
12)



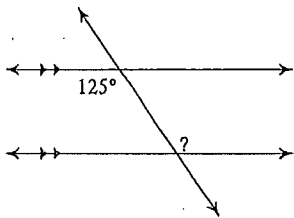
13)



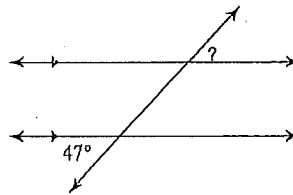
14)



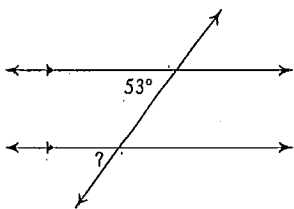
15)



16)



17)



18)

