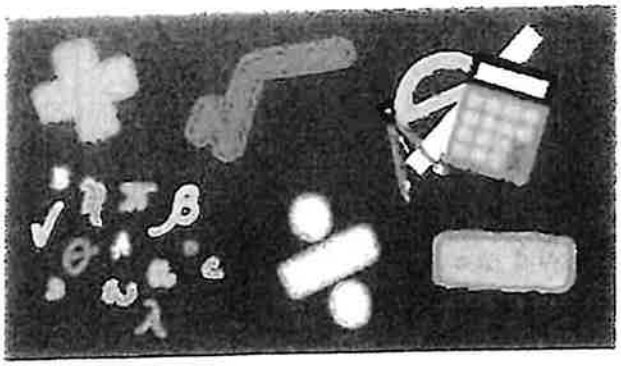
THE Wyndcroft SCHOOL

Incoming Seventh Grade Students -

Please complete this packet to return on the first day of school. Use your notes from this past school year to help you. Don't forget to show your work.

Enjoy your summer!



Name _____

Summer Math Packet 6th to Algebra 1 Part 1

OPERATIONS WITH FRACTIONS

Equivalent Fractions. Find the value of x in each pair of equivalent fractions.

$\frac{2}{3} = \frac{x}{27}$ x=	$\frac{33}{51} = \frac{11}{x}$ x=	$\frac{24}{x} = \frac{8}{24}$ x=	$\frac{x}{12} = \frac{35}{60}$ x=
$\frac{45}{60} = \frac{135}{x}$ x=	$\frac{48}{63} = \frac{x}{21}$ x=	$\frac{7}{x} = \frac{91}{117}$ x=	$\frac{x}{5} = \frac{8}{10}$ x=

Find the sum or difference.

$\frac{8}{15} - \frac{1}{5}$	$\frac{19}{20} - \frac{3}{10}$	$\frac{3}{4} + \frac{1}{7}$
$\frac{7}{9} + \frac{2}{3}$	$\frac{3}{5} + \frac{4}{11}$	$\frac{5}{12} - \frac{3}{10}$
Evaluate each expression if $a = \frac{5}{6}$ and $b = \frac{3}{8}$		
$a + b$	$a - b$	$\frac{9}{10} - a$
$\frac{1}{4} + a$	$\frac{6}{12} - b$	$\frac{11}{12} - a$

Order of Operations -- PEMDAS Practice Worksheets

Remember, PEMDAS (Please Excuse My Dear Aunt Sally) stands for:

Parentheses
Exponents
Multiplication
Division
Addition
Subtraction

1. $14 + 18 \div 2 \times 18 - 7$
2. $15 \times 18 + 12 \div 3 + 9$
3. $8 \times 4 + 9 - 9 + 18$
4. $11 \times 11 - 6 \times 17 + 4$
5. $2 - 1 + 5 \times 4 \times 11$
6. $16 \times 7 \times 15 + 11 + 17$
7. $10 - 9 \times 24 \div 8 \times 6$
8. $10 \div 5 + 10 - 9 \times 11$
9. $3 \times 19 \times 14 + 18 \div 2$
10. $10 \times 12 - 14 \div 2 + 15$
11. $14 \div 2 - 1 + 3$
12. $9 + 15 \div 5 \times 13$

13. $12 \div 3 \times 12 + 10$

14. $16 \times 15 \div 5 + 12$

15. $2 \times 10 + 10 - 8$

16. $24 \div 4 + 14 \times 2$

17. $11 \times 10 - 12 \div 3$

18. $8 \div 4 \times 2 + 18$

19. $18 \div 6 + 4 \times 15$

20. $2 - 20 \div 5 \times 3$

21. $(6 + 4)^2 + (11 + 10 \div 2)$

22. $(11 + 42 - 5) \div (11 - 4)$

23. $(17 - 3) \times (14 - 6) - 22$

24. $(9 + 33 - 6) \div 6 - 3^2$

25. $(10 + 43 - 5) \div 6 + 5^2$

26. $2 \times (9 \times 5 + 3^2) + 4$

27. $(6 + 3)^2 + (9 - 10 \div 5)$

28. $(10 + 59 - 3^2) \div (24 - 4)$

29. $4 \times (12 \times 6 - 4^2) + 9$

30. $(19 - 8) \times (10 + 4) + 8^2$

Addition

To add decimals, write the numbers vertically with the decimal points directly under each other, then add the digits.
Note: When the decimal points are lined up, the digits are automatically lined up in the correct place value.

Example:
13.2 + 1.57

$$\begin{array}{r} 13.20 \\ +\ 1.57 \\ \hline 14.77 \end{array}$$

Write the problem vertically. Line up the decimal points.
Note the additional zero. Adding zeros to the right of the final digit after the decimal does not change the value of the number.

Example:
$437 + $41.56 + $0.18

$$\begin{array}{r} \$437.00 \\ 41.56 \\ +\ 0.18 \\ \hline \$478.74 \end{array}$$

Dollar values are the most familiar decimal values.

Write the problem vertically. Line up the decimal points.

The additional zeros are optional, but help with placement. Note dollar sign use.

Find the Sum (Add):

1) 0.03 + 0.4

2) 0.3 + 0.03 + 0.003

3) 2.05 + 0.561 + 43.9 + 17.32

4) $4 + $14.01

5) 8.0632 + 0.234 + 0.81 + 0.064

6) 48 + 0.84

7) 10 + 9.6 + 3.76 + 8.451

8) $3.06 + $2.13 + $4.89

9) 2,134.07 + 306.5 + 2.109

10) 56.3701 + 0.268 + 4.2

Subtraction

To subtract decimals, write the numbers vertically with decimal points directly under each other, and add zeros when needed, then subtract the digits.
Note: When the decimal points are lined up, the digits are automatically lined up in the correct place value.

Example: 42.63 - 18.275	Write the problem vertically. Line up the decimals.
42.63**0** - 18.275 24.355	Remember: always write the first number on the top. Add zeros to the number with fewer places to the right of the decimal point. Subtract.
Example: $23 - $0.13	Write the problem vertically. Line up the decimals.
$23.**00** - 0.13 $22.87	Insert the decimal point and two zeros. Subtract; borrow if necessary.

Find the Difference (Subtract):

1) 8.4 - 7.35

2) 12.5 - 8.7

3) $17.50 - $6.25

4) $18 - $5.63

5) 4.355 - 1.647

6) 60.54 - 0.928

7) 89. - 58.46

8) 104.003 - 21.78

Find the Sum and Difference as indicated, (in the order indicated):

9) 14.6 - 1.98 + 3.7

10) 5.67 + 0.34 - 2.05

11) 0.19 + 2.34 - 1.003

12) $21.90 - $0.45 - $ 2.34

Multiplication

To multiply decimals, write the problem and multiply as you would a whole number multiplication problem. The product (answer) of two decimal numbers has the same number of decimal places after the decimal point as the total number of decimal places in the two numbers being multiplied.

Example:
0.19 x 0.4

0.19
x 0.4
0.076

Write vertically. (The decimal points do not have to line up.)

2 decimal places (Decimal points not lined up.)
+ 1 decimal place
3 decimal places

Count from right to left; add a zero before the decimal point.

Example:
708
x 0.32
1416
21240
226.56

0 decimal places (Decimal points not lined up.)
+ 2 decimal places
2 decimal places

Count from right to left to place decimal point.

Find the Product (multiply):

1) 0.32 x 0.6

2) 1.9 x 0.05

3) 400 x 0.17

4) 5.048 x 2.03

5) 0.15 x 0.15

6) 2.4 x .013

7) 0.075 x 5.4

8) 99 x 1.1

9) 2.029 x 10.8

Division by Whole Numbers

To divide a decimal by a whole number, place the decimal point in the quotient directly above the decimal point in the dividend to ensure the correct place value. Divide as with whole numbers.

Example:

$5.5 \div 5 = 5\overline{)5.5}$

$$\begin{array}{r} 1.1 \\ 5\overline{)5.5} \\ \underline{5} \\ 5 \\ \underline{5} \\ 0 \end{array}$$

Write the problem with a "division house," placing the quotient's (answer's) decimal point directly over the decimal point of the dividend.

Example:

$\frac{22.5}{3} = 3\overline{)225}$

$$\begin{array}{r} 7.5 \\ 3\overline{)22.5} \\ \underline{21} \\ 15 \\ \underline{15} \\ 0 \end{array}$$

A fraction is another way to express a division problem. The divisor is the denominator and the dividend is the numerator.

Write the problem with a "division house," placing the quotient's (answer's) decimal point directly over the decimal point of the dividend.

Divide:

1) $1.8 \div 6 =$

2) $\frac{0.84}{4}$

3) $\frac{0.096}{8}$

4) $0.264 \div 4 =$

5) $\frac{3.96}{9}$

6) $0.016 \div 2 =$

7) $0.32 \div 5 =$

8) $\frac{34.5}{5}$

9) $\frac{1.49}{2}$

Name _____

Summer Math Packet 6th to Algebra 1 Part 1

Multiplying and Dividing Fractions

$\frac{4}{11} \times \frac{3}{8}$	$\frac{15}{24} \times \frac{3}{20}$	$\frac{9}{7} \div \frac{3}{14}$
$\frac{12}{5} \div \frac{3}{10}$	$\frac{1}{5} \div \frac{1}{4}$	$2\frac{3}{5} \times 1\frac{3}{7}$
$\frac{3}{4} \div 5\frac{1}{2}$	$7 \times \frac{2}{7}$	$14 \times 2\frac{3}{7}$

Write each fraction in simplest terms.

$\frac{49}{70} =$	$\frac{5}{30} =$	$\frac{6}{14} =$	$\frac{72}{72} =$
$\frac{56}{64} =$	$\frac{39}{45} =$	$\frac{42}{45} =$	$\frac{78}{130} =$

Write each decimal as a fraction in simplest form.

0.8	0.52	0.92
0.48	0.86	0.76

Write each percent as a decimal.

83%	7%	56%
91.5%	80%	14.9%

Name _____

Write each decimal as a percent.

0.06 =	0.13=	0.74=	0.5=
0.192=	0.247	0.4165=	0.4833=

Percent Problems: Use either the percent equation (**%• $b = c$**) or the percent proportion $\frac{part}{whole} = \frac{\%}{100}$ to answer each question.

Find 23% of 321.	16 is what percent of 45?
12 is 15% of what number?	25 is 30% of what number?
What is 40% of 290?	30 is what percent of 180?

OPERATIONS WITH INTEGERS

-26 + 32	**17 + (-64)**	**-23-(-34)**	**45-(-20)**
106 - 183	**(-23)(8)**	**-34(-13)**	$\frac{-90}{45}$
$84 \div (-21)$	**-86 + (-37)**	**64 + 104**	17×9
$\frac{144}{-72}$	**-23 + (-56) + 72**	**(-5) +(-5) +(-5)**	**(-3)(-3)(-3)**

WRITING EXPRESSIONS

Verbal Phrase	**Algebraic Expression**
The difference between 7 and a number	
The quotient of a number and 9	
The cost split among four people	
The product of a number and negative three	
Three-fourths of a number	
The height decreased by 2 inches	

DISTRIBUTIVE PROPERTY

Write the equivalent equation without parentheses.

$5(a + 2) =$	$3(x + 4)=$	$6(n + 3)=$
$5(2t - 3)=$	$9(3n - 2) =$	$8(b - c) =$

EVALUATING EXPRESSIONS

Evaluate each expression if $w=-2$, $x=3$, $y=-4$, and $z=-5$	
$x + 6y$	$9 - wz$
$\frac{w-x}{z}$	$\frac{8y}{x-5}$
$\frac{6z}{x} - y$	$\frac{-42}{y-x} + w$
$-z^2$	$4(3w + 2)^2$

WRITING EACH VERBAL SENTENCE AS AN ALGEBRAIC EQUATION

8 less than some number is equal to 15.	
-30 is the product of -5 and a number.	
-14 is twice a number.	
The difference of 100 and x is 57.	

8 less than some number is equal to 15.	
The number of members divided by 6 is 15.	
The quotient of z and 10 is equal to 32.	

SOLVING

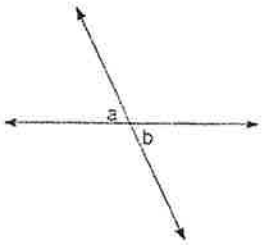
EQUATIONS

One-Step. Solve and Check. Show Your Work.

$x - 2 = -13$	$52 + x = -7$	$y + 12 = -3$
$28 + n = 34$	$t - 6 = -16$	$-49 = x - 18$
$w + 8 = -6$	$34 = -2x$	$10 = \frac{m}{7}$
$\frac{x}{9} = 9$	$-36 = 18y$	$5b = 40$

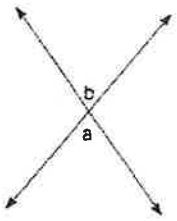
Name the relationship: complementary, supplementary, vertical, or adjacent.

1)



2)

3)



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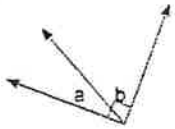

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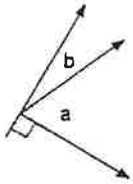

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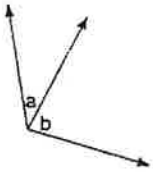
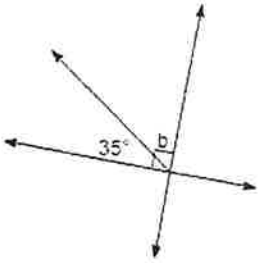


Find the measure of angle b.

13)



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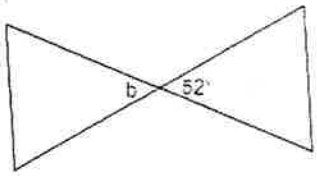
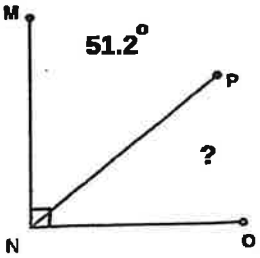


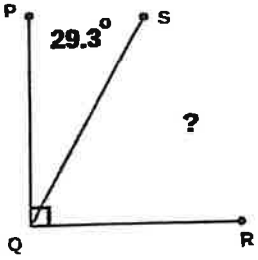
Name : _____ Score : _____

Teacher : _____ Date : _____

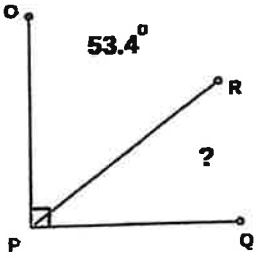
Find the missing angle measurement in each set of complementary angles.

1) 

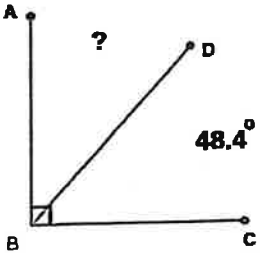
Angle = _____

2) 

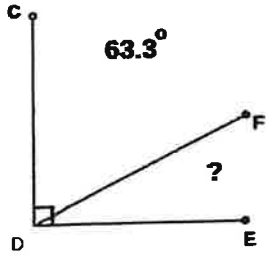
Angle = _____

3) 

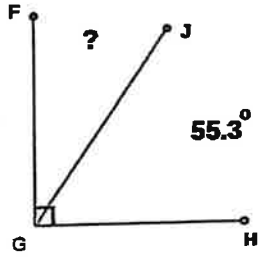
Angle = _____

4) 

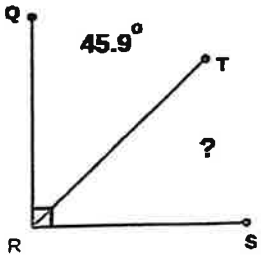
Angle = _____

5) 

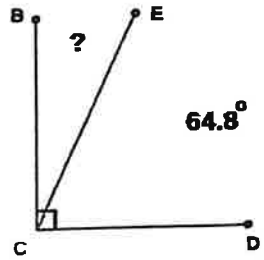
Angle = _____

6) 

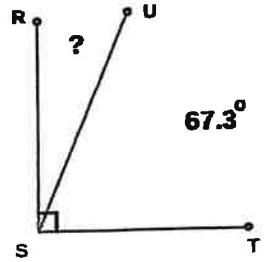
Angle = _____

7) 

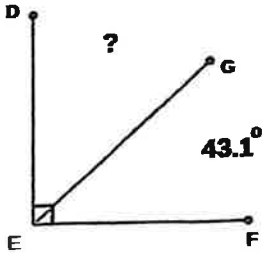
Angle = _____

8) 

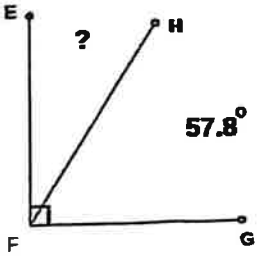
Angle = _____

9) 

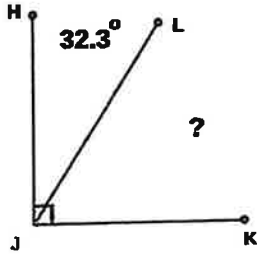
Angle = _____

10) 

Angle = _____

11) 

Angle = _____

12) 

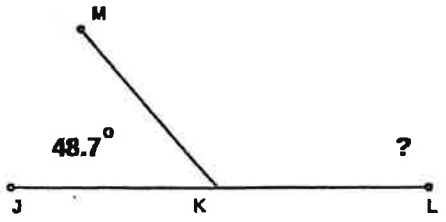
Angle = _____

Name : _____ Score : _____

Teacher : _____ Date : _____

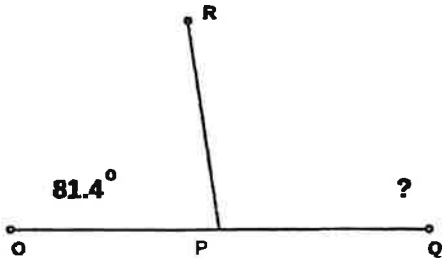
Find the missing angle measurement in each set of supplementary angles.

1)



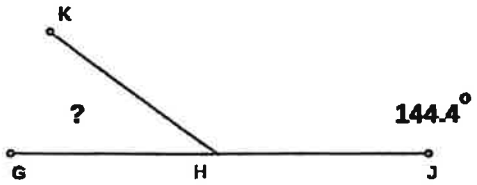
Angle = _____

2)



Angle = _____

3)



Angle = _____

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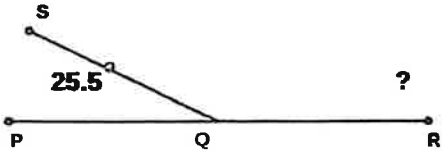
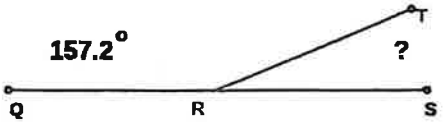


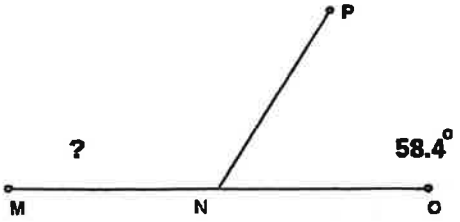
Angle = _____

5)



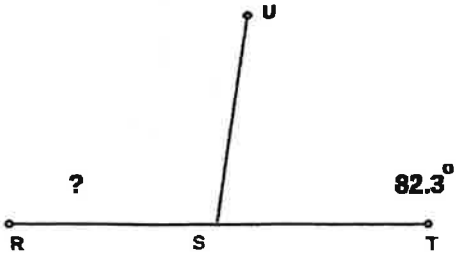
Angle = _____

6)



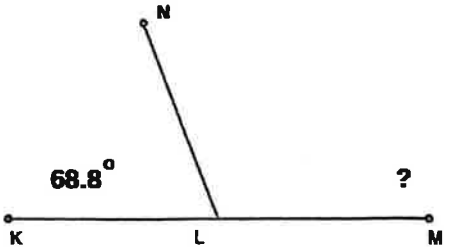
Angle = _____

7)



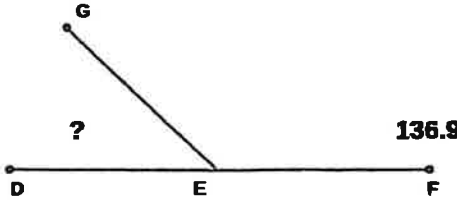
Angle = _____

8)



Angle = _____

9)



Angle = _____

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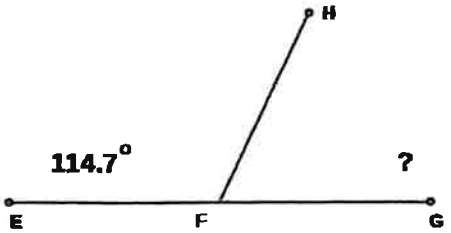


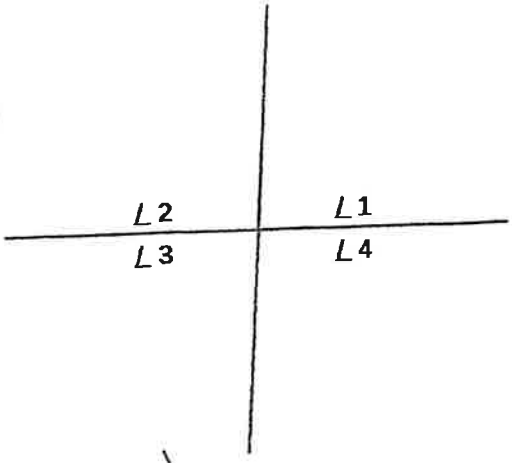
Angle = _____

Name : _____ Score : _____

Teacher : _____ Date : _____

Find the missing vertical angles.

1)



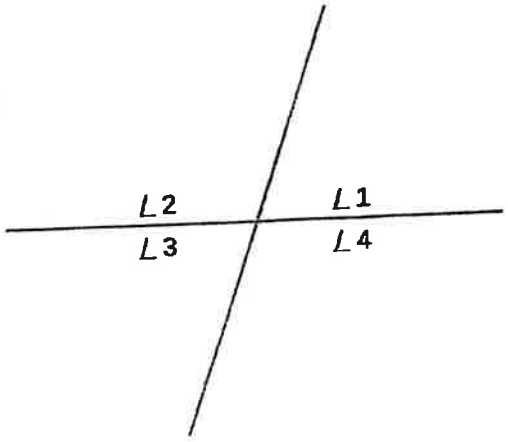
∠1 = _____

∠2 = 93°

∠3 = 87°

∠4 = _____

2)



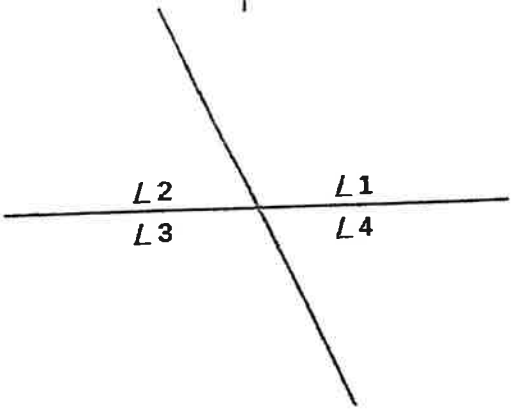
∠1 = _____

∠2 = _____

∠3 = 71°

∠4 = 109°

3)



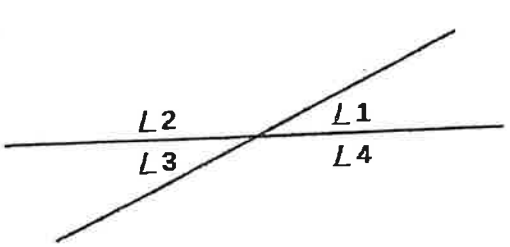
∠1 = 115°

∠2 = 65°

∠3 = _____

∠4 = _____

4)



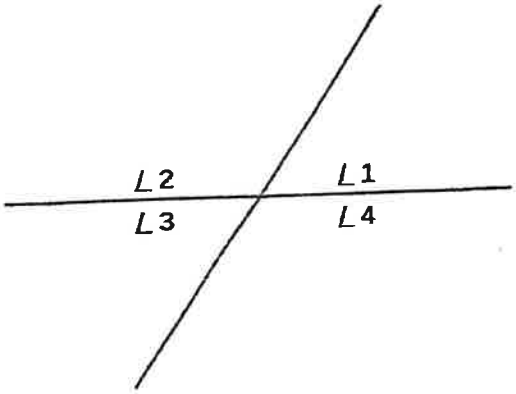
∠1 = 26°

∠2 = _____

∠3 = _____

∠4 = 154°

5)



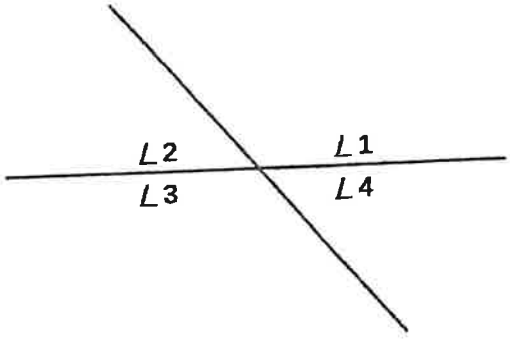
∠1 = 57°

∠2 = _____

∠3 = _____

∠4 = 123°

6)



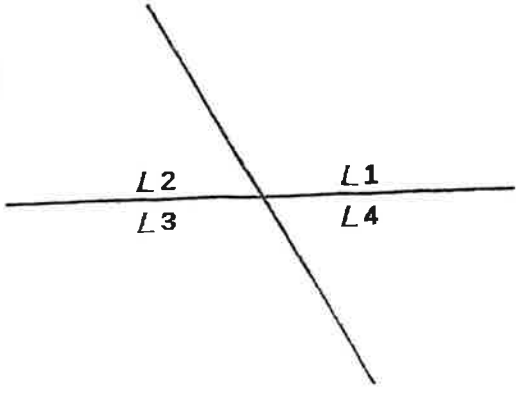
∠1 = 131°

∠2 = 49°

∠3 = _____

∠4 = _____

7)



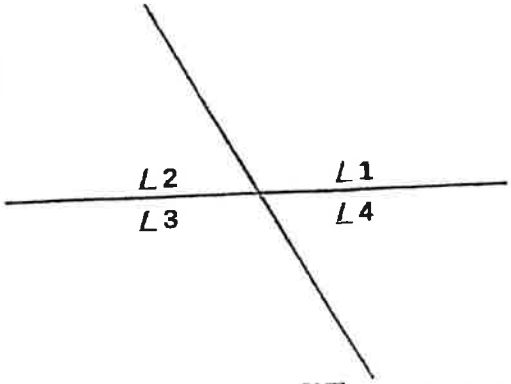
∠1 = _____

∠2 = _____

∠3 = 119°

∠4 = 61°

8)



∠1 = _____

∠2 = 60°

∠3 = 120°

∠4 = _____

Write each percent as a fraction in simplest form.

25%	**40%**	**85%**
60%	**72%**	**16%**
4%	**360%**	**150%**

Find the Square Root

$\sqrt{9}$	$\sqrt{100}$	$\sqrt{225}$
$\sqrt{49}$	$\sqrt{64}$	$\sqrt{25}$
$\sqrt{196}$	$\sqrt{121}$	$\sqrt{16}$
$\sqrt{4}$	$\sqrt{1}$	$\sqrt{144}$