Math 2201   **Missing Angles and Parallel Lines**   Worksheet
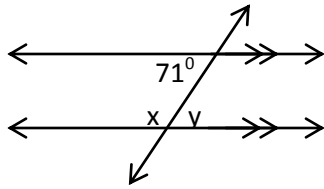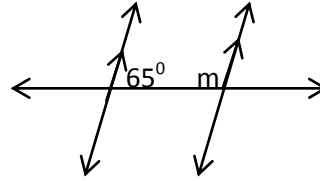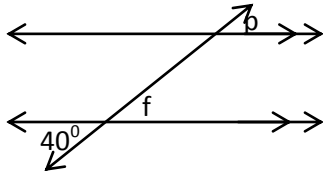
1. Find the missing measure of each indentified angle.

a).

71^0

x / y

x = 109   y = 71

b).

65^0 m

m = 115

c).

b

f

40^0

f = 40   p = 40

d).

a   b

c

62^0

a = 62, b = 118, c = 62

e).

110^0 g   h   k

g = 70, h = 110, k = 110

f).

94^0 w   d

x   b

31^0 y   q   c
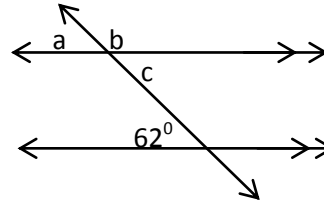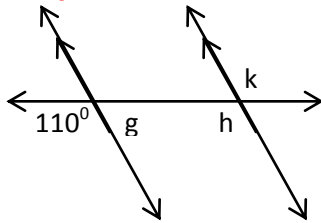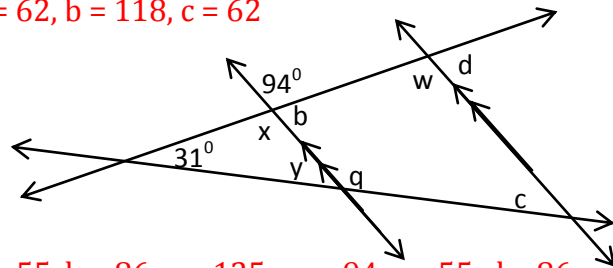
x = 94, y = 55, b = 86, q = 125, w = 94, c = 55, d = 86

g).

35^0 s

75^0

e   z

e = 70, z = 35, s = 70

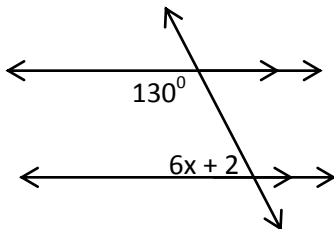h).

n   u

80^0 v
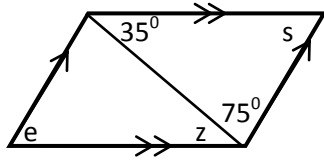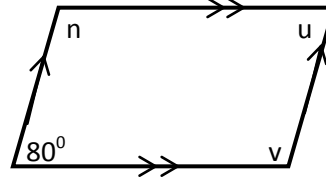
n = 100, u = 80, v = 100

CHALLENGE

i). What is the value of x?
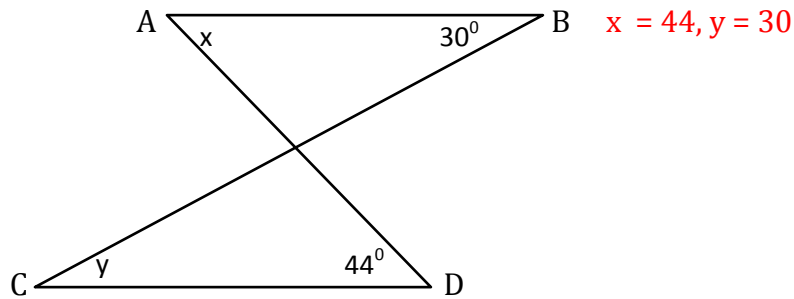
130^0

6x + 2

x = 8

j). What is the value of the missing angle?

2x – 10

x + 15
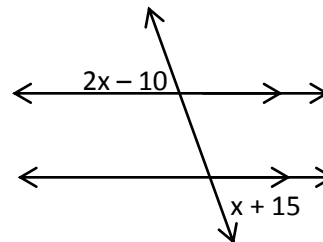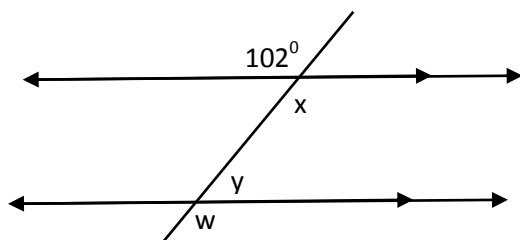
x = 25   , 2x – 10 = 40, x + 15 = 40

2. What are the values of x and y in the diagram below to ensure $\overline{AB} \parallel \overline{CD}$? How do you know?

A $\quad$ x $\quad$ 30^0 $\quad$ B $\quad$ x = 44, y = 30
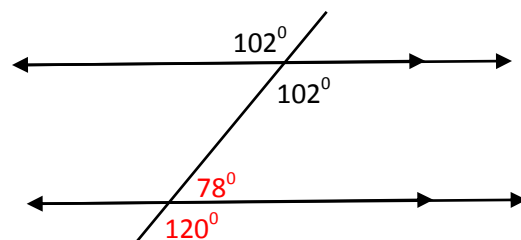
44^0

C $\quad$ y $\quad$ D

3. A question on a test was **Find the missing angle measures**. One student in the class had the following answer. Identify and correct any errors.
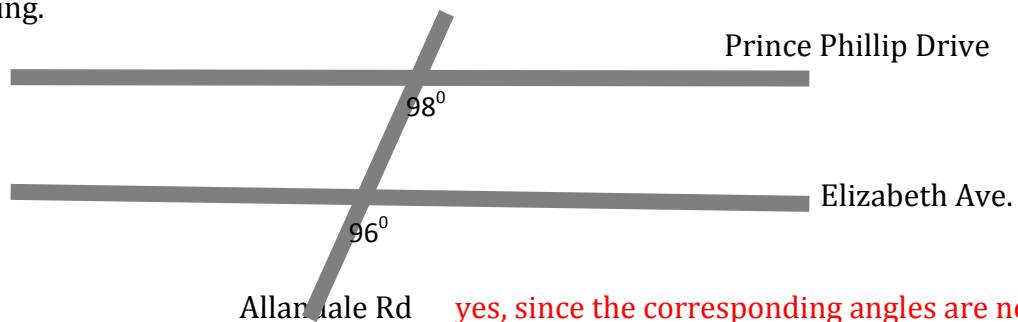
Test Question $\qquad\qquad\qquad\qquad\qquad\qquad$ Student's Answer

102^0 $\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad$ 102^0

x $\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad$ 102^0

y $\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad$ 78^0

w $\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad$ 120^0

4. Suppose Prince Phillip Drive and Elizabeth Avenue follow a straight line path and intersect Allandale Road at angles of 98^0 and 96^0 as shown in the map below. If the streets were to continue in a straight line, would their paths ever cross?   Explain your reasoning.

Prince Phillip Drive

98^0

Elizabeth Ave.

96^0

Allandale Rd $\quad$ yes, since the corresponding angles are not equal the lines are not parallel.