



## PROBLEMS AND SOLUTIONS - LINES AND ANGLES

Prepared by Ingrid Stewart, Ph.D., College of Southern Nevada

Please Send Questions and Comments to [ingrid.stewart@csn.edu](mailto:ingrid.stewart@csn.edu). Thank you!

**YOU MUST BE ABLE TO DO THE FOLLOWING PROBLEMS WITHOUT A CALCULATOR!**

The solutions are listed below the problem set!

### Problem 1:

Change  $45^{\circ}14'39''$  (45 degrees and 14 minutes and 39 seconds) to decimal degree form. Round to two decimal places.

### Problem 2:

Change  $34'25''$  (34 minutes and 25 seconds) to decimal degree form. Round to two decimal places.

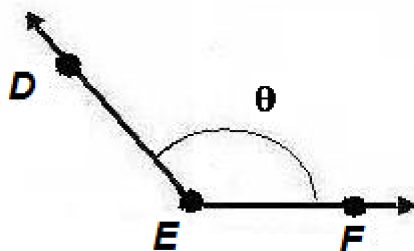
### Example 3:

Change  $55^{\circ}29''$  (55 degrees and 29 seconds) to decimal degree form. Round to three decimal places.

### Problem 4:

Change  $84.78^{\circ}$  to degrees, minutes, and seconds rounded to whole numbers.

### Problem 5:



a. Name the angle in two different ways using three capital letters.

$\angle DEF$  or  $\angle FED$  The vertex point is in the middle!

b. Name the angle using one capital letter.

$\angle E$  using the letter of the vertex point!

c. Name the angle using the Greek letter  $\theta$  (theta) between the two rays.

$\angle \theta$

**Problem 6:**

Classify the angles as right, straight, acute, or obtuse:

- a.  $38^\circ$    b.  $95^\circ$    c.  $90^\circ$    d.  $153^\circ$    e.  $10^\circ$    f.  $180^\circ$

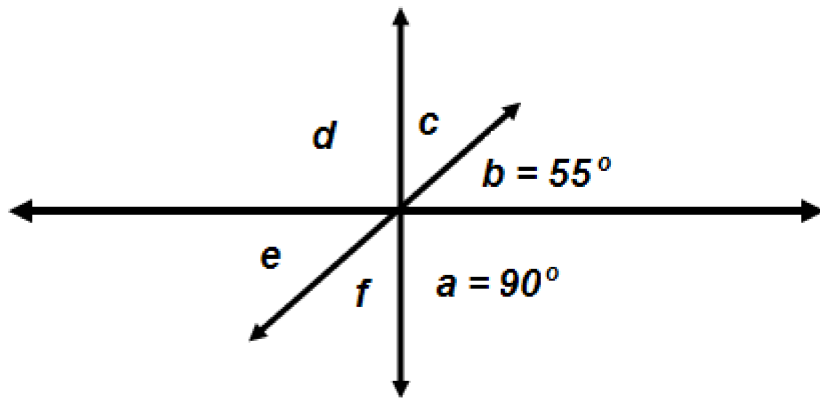
**Problem 7:**

Tell whether the angle pairs are complementary, supplementary, or neither.

- a.  $42^\circ$ ,  $80^\circ$    b.  $17^\circ$ ,  $73^\circ$    c.  $38^\circ$ ,  $142^\circ$   
d.  $52^\circ$ ,  $48^\circ$    e.  $60^\circ$ ,  $30^\circ$    f.  $110^\circ$ ,  $70^\circ$

**Problem 8:**

In the figure shown below, you are given the measure of two angles. Find the measure of the remaining angles.



## SOLUTIONS

You can find detailed solutions below the link for this problem set!

1. $45.24^\circ$	2. $0.57^\circ$
3. $55.008^\circ$	4. $84^\circ 46' 48''$
5. a. $\angle DEF$ or $\angle FED$ b. $\angle E$ c. $\angle \theta$	6. a. $38^\circ$ - acute angle b. $95^\circ$ - obtuse angle c. $90^\circ$ - right angle d. $153^\circ$ - obtuse angle e. $10^\circ$ - acute angle f. $180^\circ$ - straight angle
7. a. $42^\circ, 80^\circ$ - neither supplementary nor complementary b. $17^\circ, 73^\circ$ - complementary c. $38^\circ, 142^\circ$ - supplementary d. $52^\circ, 48^\circ$ - neither supplementary nor complementary e. $60^\circ, 30^\circ$ - complementary f. $110^\circ, 70^\circ$ - supplementary	8. $m\angle c = 35^\circ$ $m\angle d = 90^\circ$ $m\angle e = 55^\circ$ $m\angle f = 35^\circ$