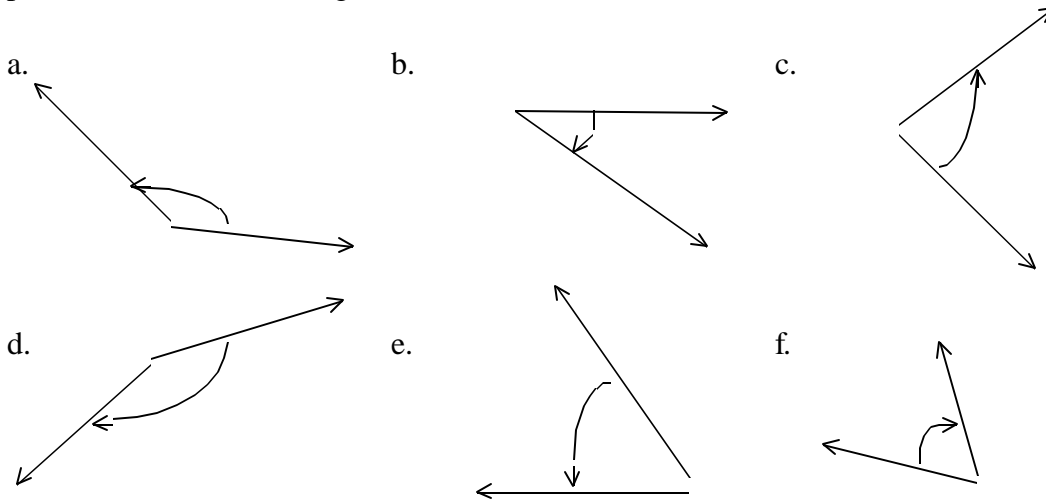
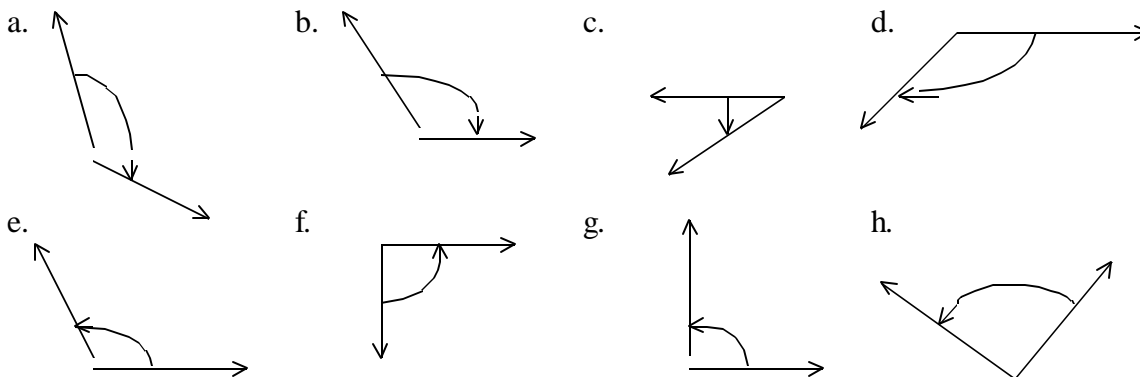


## Exercises

1. In the following diagrams name the initial side, terminal side and vertex of each angle, and with a protractor measure each angle.



2. Which of the following is/are angles in standard position. If the angle is not, state the reason why.



3. a. Name four angles coterminal to  $152^\circ$ , two of which are positive and two of which are negative.
- b. Name four angles coterminal to  $-279^\circ$ , two of which are positive and two of which are negative.
- c. Name four angles coterminal to  $181.25^\circ$ , two of which are positive and two of which are negative.

4. Given the following angles, state the reference angle for each:

- |    |               |    |                |
|----|---------------|----|----------------|
| a. | $120^\circ$   | b. | $-45^\circ$    |
| c. | $235.5^\circ$ | d. | $-145.7^\circ$ |
| e. | $70^\circ$    | f. | $-330^\circ$   |
| g. | $180^\circ$   | h. | $90^\circ$     |
| i. | $-270^\circ$  | j. | $280^\circ$    |

5. Given the following angles, select which ones or pairs would be: (You may use the numbers more than once.)

- a) acute      b) obtuse      c) complimentary      d) supplementary

$77^\circ$ ,  $37^\circ$ ,  $57^\circ$ ,  $123^\circ$ ,  $13^\circ$ ,  $67^\circ$ ,  $3^\circ$ ,  $103^\circ$ ,  $23^\circ$ ,  $143^\circ$

6. Two angles are supplementary. One fourth of the smaller angle times eleven is equal to the other angle. What are the two angles?

7. a. Given the point P (1,1) which is on the terminal side of an angle  $\theta$  in standard position, what is the degree measure of  $\theta$ ?

b. If P were (-1,1), what is the degree measure of  $\theta$ ?

c. If P were (-1,-1), what is the degree measure of  $\theta$ ?

d. If P were (1, -1), what is the degree measure of  $\theta$ ?