

Law of Sines & Cosines Word Problems Sheet

1) The diagonals of a parallelogram make an angle of $43^{\circ} 30'$ with each other. If the longer diagonal is 39.4 cm and the shorter side is 14.4 cm, find the other diagonal to the nearest tenth of a centimeter.

2) Two sides of a triangular garden are 24 ft. and 32 ft. If the angle between these sides is $64^{\circ} 23'$, find the third side of the garden to the nearest foot.

3) The diagonals of a parallelogram are 50 ft. and 60 ft. and intersect at an angle of 62° . Find the shorter side of the parallelogram to the nearest foot.

4) The 3 sides of a triangular playground are 60 ft., 80 ft., and 90ft. Find, to the nearest minute, the largest angle of the playground.

5) In parallelogram DEFG, $DE = 430$, $DG = 370$, and $DF = 673$. Find angle DEF, to the nearest minute.

6) A body is acted upon by two forces of 215 pounds and 106 pounds, with an angle of $76^{\circ}14'$ between them. Find, to the nearest minute, the angle between the resultant force and the 215 pound force.

7) A body is acted upon by two forces of 350 pounds and 268 pounds. If the resultant is 424 pounds, find the angle formed by the lines of action of the forces to the nearest minute.

8) A body is acted upon by two forces of 218 pounds and 50 pounds acting at an angle of $88^\circ 19'$. Find the magnitude of the resultant force to the nearest pound.