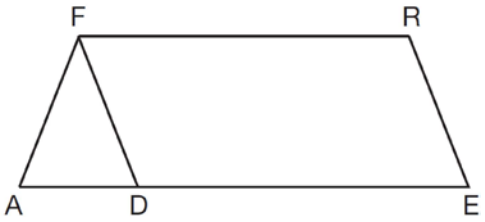
Name: _____

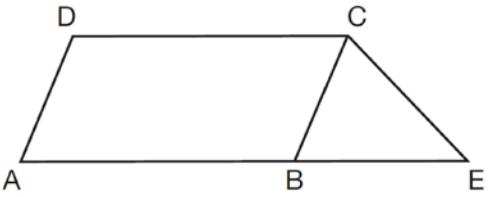
G.CO.C.11: Interior and Exterior Angles of Polygons 1

1 In the diagram of parallelogram *FRED* shown below, $\overline{ED}$ is extended to *A*, and $\overline{AF}$ is drawn such that $\overline{AF} \cong \overline{DF}$.



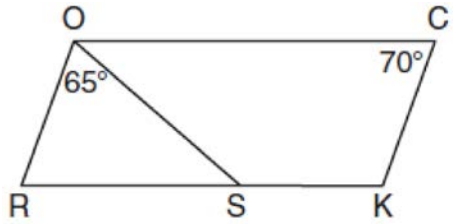
If m∠*R* = 124°, what is m∠*AFD*?
1) 124°
2) 112°
3) 68°
4) 56°

2 In the diagram below, *ABCD* is a parallelogram, $\overline{AB}$ is extended through *B* to *E*, and $\overline{CE}$ is drawn.



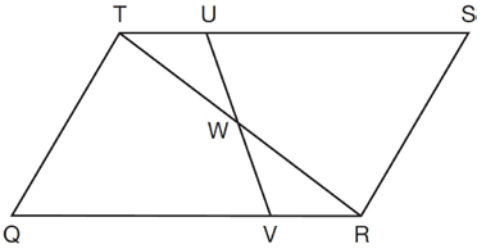
If $\overline{CE} \cong \overline{BE}$ and m∠*D* = 112°, what is m∠*E*?
1) 44°
2) 56°
3) 68°
4) 112°

3 In the diagram below of parallelogram *ROCK*, m∠*C* is 70° and m∠*ROS* is 65°.



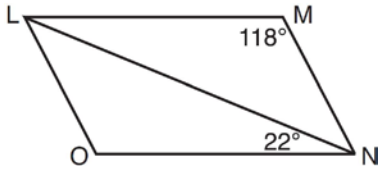
What is m∠*KSO*?
1) 45°
2) 110°
3) 115°
4) 135°

4 In parallelogram *QRST* shown below, diagonal $\overline{TR}$ is drawn, *U* and *V* are points on $\overline{TS}$ and $\overline{QR}$, respectively, and $\overline{UV}$ intersects $\overline{TR}$ at *W*.



If m∠*S* = 60°, m∠*SRT* = 83°, and m∠*TWU* = 35°, what is m∠*WVQ*?
1) 37°
2) 60°
3) 72°
4) 83°

5 The diagram below shows parallelogram *LMNO* with diagonal $\overline{LN}$, m∠*M* = 118°, and m∠*LNO* = 22°.



Explain why m∠*NLO* is 40 degrees.

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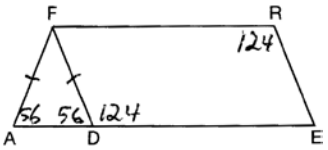
Answer Section

1 ANS: 3

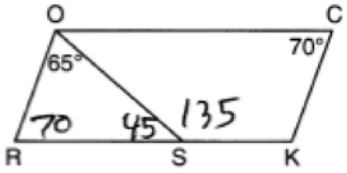


REF: 081508geo

2 ANS: 1
$180 - (68 \cdot 2)$

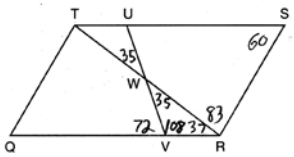
REF: 081624geo

3 ANS: 4



REF: 081708geo

4 ANS: 3



REF: 011603geo

5 ANS:
Opposite angles in a parallelogram are congruent, so m$\angle O$ = 118°. The interior angles of a triangle equal 180°. $180 - (118 + 22) = 40$.

REF: 061526geo