

Solutions for quiz2a.pdf and quiz2b.pdf

Here are correct responses for the reasons in these problems.

quiz2a.pdf

1. The angle sum of a triangle is 180° .
2. Given in the hypotheses.
3. Vertical Angle Theorem.
4. Subtract second and third equations from the first.

quiz2b.pdf

- 1(a). The first equation follows because the angle sum of a triangle is 180° .
- 1(b). The second equation follows by the Supplement Postulate for angle measures.
- 1(c). The third equation follows from the hypothesis $|\angle DAE| = \frac{1}{2}|\angle DAC|$ and the Additivity Postulate for angle measures.
 2. Divide the first and last expressions in the previous part by 2.
 3. Since E lies in the interior of $\angle DAC$ we know that E and C are on the same side of the line $AD = AB$.
 4. In the setting of the preceding statement, the corresponding angles have been shown to have equal measures, and therefore by the theorems on transversals the two lines AE and BC must be parallel.