Measuring

Bart Snapp and Brad Findell

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Contents

Measuring by Sight

Short-answer questions involving measuring.

Careful Measurement by Sight

Adjust the figures to fit the given conditions within **eyeball accuracy**. Enter the requested measurements.

Problem 1 *Geogebra link:* https://tube.geogebra.org/m/gjf28er6

In figure above, when point C is adjusted so that $\overline{BC}$ is perpendicular to $\overline{AC}$, $AC =$ $\boxed{?}$.

Problem 2 *Geogebra link:* https://tube.geogebra.org/m/q32gyaud

In $\triangle ABC$ above, move point D to make the following measurements. ***Enter -1 if it is not possible.***

(a) *When $\overline{BD}$ is a median, $AD =$* $\boxed{?}$.

(b) *When $\overline{BD}$ is a angle bisector, $AD =$* $\boxed{?}$.

(c) *When $\overline{BD}$ is a perpendicular bisector, $AD =$* $\boxed{?}$.

(d) *When $\overline{BD}$ is a altitude, $AD =$* $\boxed{?}$.

Problem 3 *Geogebra link:* https://tube.geogebra.org/m/a888zyw2

In $\triangle ABC$ above, the height to base $\overline{AC}$ is $\boxed{?}$.

Problem 4 *Geogebra link:* https://tube.geogebra.org/m/kta9hbuf

In $\triangle ABC$ above, the height to base $\overline{AC}$ is $\boxed{?}$.

Author(s): Brad Findell

Measuring Interior Angles

Short-answer questions involving angles in triangles.

Geogebra link: `https://tube.geogebra.org/m/zrapvzpz`

Problem 5 *Measure the interior angles of quadrilateral $ABCD$ above.*

(a) $m\angle A =$? *degrees.*

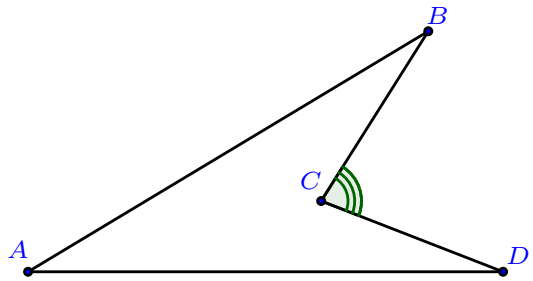
(b) $m\angle B =$? *degrees.*

(c) $m\angle C =$? *degrees.*

(d) $m\angle D =$? *degrees.*

(e) $m\angle A + m\angle B + m\angle C + m\angle D =$? *degrees.*

Problem 6 *Use the measurements from the previous problem to answer the following questions:*



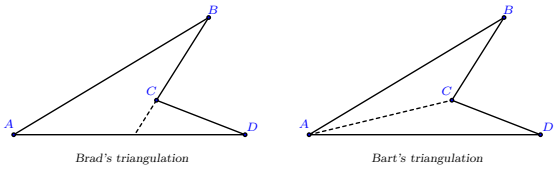
(a) *The marked angle should measure* ? *degrees.*

(b) $m\angle A + m\angle B + m\angle D =$? *degrees.*

(c) *What do you notice?*

Author(s): Brad Findell

Problem 7 *In order to reason about the sum of the interior angles, Bart and Brad each* triangulated *the figure as shown below.*



Both Bart and Brad claim that because in a triangle the sum of the interior angles is $\boxed{?}$ *degrees, and this quadrilateral is cut into* $\boxed{?}$ *triangles, the angle sum in this quadrilateral should be* $\boxed{?}$ *degrees. What is your judgment?*

Multiple Choice:

(a) *They are both correct.*

(b) *Only Brad is correct.*

(c) *Only Bart is correct.*

(d) *Neither of them are correct.*

Explain your reasoning.