

Lines, Angles, and Curves

Classroom:

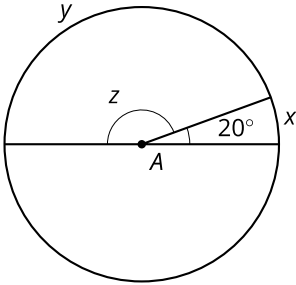
Due:

Student Name:

Date Submitted:

Problem 1

Given the figure, find the values of the following.



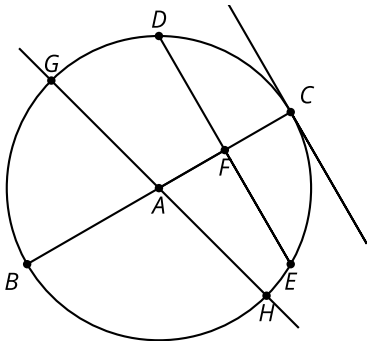
1) $x =$

2) $y =$

3) $z =$

Problem 2

Given the figure, find examples of each kind of segment.



4) Select **all** segments that are diameters. Write each corresponding letter in the answer box and separate letters with commas.

a) AB b) AC c) AF d) AG e) AH f) BC g) DE h) FC i) HG

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5) Select **all** segments that are chords but not diameters. Write each corresponding letter in the answer box and separate letters with commas.

- a) AB b) AC c) AF d) AG e) AH f) BC g) DE h) FC i) HG

6) Select **all** segments that are radii. Write each corresponding letter in the answer box and separate letters with commas.

- a) AB b) AC c) AF d) AG e) AH f) BC g) DE h) FC i) HG

Problem 3

Identify whether each statement must be true, could possibly be true, or definitely can't be true.

7) A diameter is a chord.

- a) must be true b) could possibly be true
c) definitely can't be true

8) A radius is a chord.

- a) must be true b) could possibly be true
c) definitely can't be true

9) A chord is a diameter.

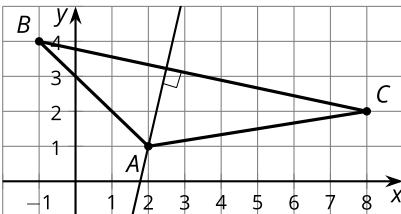
- a) must be true b) could possibly be true
c) definitely can't be true

10) A central angle measures 90° .

- a) must be true b) could possibly be true
c) definitely can't be true

Problem 4

11) Write an equation of the altitude from vertex A .



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Problem 5

12) Triangle ABC has vertices at $(5,0)$, $(1,6)$, and $(9,3)$. What is the point of intersection of the triangle's medians?

- a) The medians do not intersect in a single point. b) $(3,3)$ c) $(5,3)$ d) $(3,4.5)$

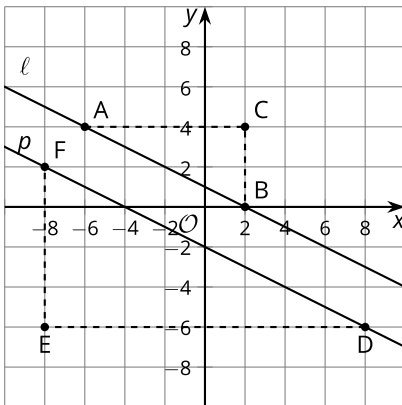
Problem 6

13) Consider the parallelogram with vertices at $(0,0)$, $(8,0)$, $(4,6)$, and $(12,6)$. Where do the diagonals of this parallelogram intersect?

Problem 7

14) Lines ℓ and p are parallel. Select **all** true statements. Write each corresponding letter in the answer box and separate letters with commas.

- a) Triangle ADB is congruent to triangle CEF . b) The slope of line ℓ is equal to the slope of line p .
c) Triangle ADB is similar to triangle CEF . d) $\sin(A) = \sin(C)$ e) $\cos(B) = \sin(C)$



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Problem 8

15) Mai wrote a proof that triangle AED is congruent to triangle CEB . Mai's proof is incomplete. How can Mai fix her proof?

Given: $\angle A \cong \angle C$, $\overline{AE} \cong \overline{CE}$

Mai's incomplete proof: We know side AE is congruent to side CE and angle A is congruent to angle C . By the Angle-Side-Angle Triangle Congruence Theorem, triangle AED is congruent to triangle CEB .

