Passage 1

1) Fill in the blanks using the available answer choices.

Two angles with measures that have a sum of 90° are called

, while two angles with measures that have a sum of

(Blank 1)

180° are called ______

(Blank 2)

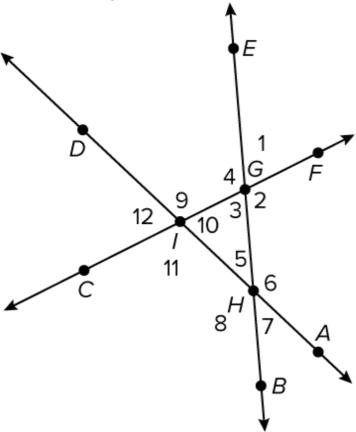
Blank 1 options

- complementary angles
- supplementary angles
- · vertical angles

Blank 2 options

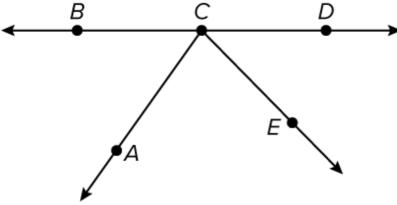
- complementary angles
- · supplementary angles
- · vertical angles

Select all the angles for which \overrightarrow{HA} and \overrightarrow{HE} are the sides.



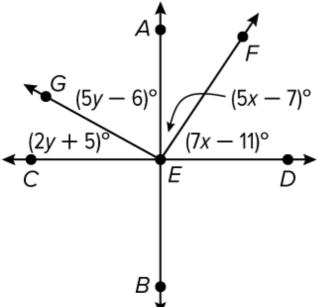
- \square $\angle AHE$
- \square $\angle AGE$
- \square $\angle EHA$
- \square $\angle EGA$
- \square $\angle AHB$

3) In the figure, \overrightarrow{CD} and \overrightarrow{CB} are opposite rays, and \overrightarrow{CA} bisects $\angle BCE$.



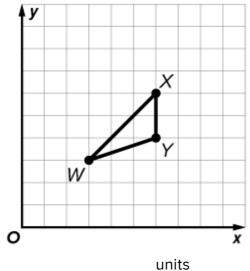
Suppose $m \angle ECA = (14x - 2)^{\circ}$ and $m \angle ACB = (12x + 8)^{\circ}$. What is $m \angle ECA$?

4) Which value of x will make \overrightarrow{AB} perpendicular to \overrightarrow{CD} ?

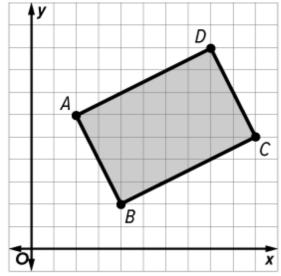


- \bigcirc 6
- \bigcirc 9
- O 11
- **O** 13

5) Find the perimeter of the triangle. Round your answer to the nearest hundredth.

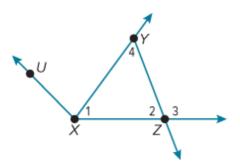


6) Find the perimeter of the rectangle. Then, find the area of the rectangle. Round your answer to the nearest tenth, if necessary.



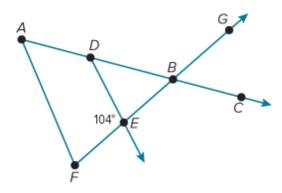
Perimeter: _____ units
Area: _____ square units

7) Use the figure to identify another name for $\angle 2$.



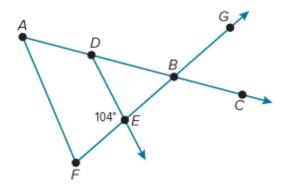
- \bigcirc $\angle UXZ$, $\angle ZXU$
- \bigcirc $\angle ZXY$, $\angle YXZ$
- \bigcirc $\angle XZY$, $\angle YZX$
- \bigcirc $\angle YXZ$

8) Refer to the figure. Select two adjacent angles.

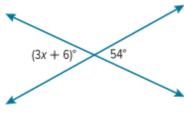


- \bigcirc $\angle ADE$ and $\angle BDE$
- \bigcirc $\angle AFE$ and $\angle EFA$
- \bigcirc $\angle DEB$ and $\angle GBC$
- \bigcirc $\angle DEF$ and $\angle BDE$

9) Refer to the figure. Select two vertical angles.



- \bigcirc $\angle ADE$ and $\angle AFE$
- \bigcirc $\angle AFE$ and $\angle EFA$
- \bigcirc $\angle DBE$ and $\angle GBC$
- \bigcirc $\angle ADB$ and $\angle FEB$
- **10)** Find the value of x.



x =_____

11) The measure of the supplement of an angle is four times the measure of the angle. Find the measures of the angle and its supplement.

measure of the angle = _____°

measure of the angle's supplement = _____°

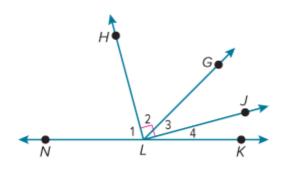
12) $\angle M$ and $\angle N$ are complementary. The measure of $\angle M$ is 38° less than the measure of $\angle N$. Find the measure of each angle.

13) Rays QR and QS are perpendicular. Point T lies in the interior of $\angle RQS$. If $m\angle RQT = (7w+12)^\circ$ and $m\angle SQT = (9w-18)^\circ$, find $m\angle RQT$ and $m\angle SQT$.

m∠RQT = _____°

m∠SQT = _____ °

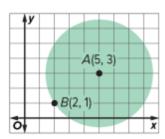
14) Refer to the figure. If $m \angle HLG = (3s + 5)^{\circ}$ and $m \angle GLJ = (6s - 23)^{\circ}$ find $m \angle HLG$ and $m \angle GLJ$.



 $m \angle HLJ =$

m∠GLJ = _____

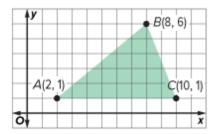
15) Find the circumference and area of the figure if each unit on the graph measures 1 centimeter. Round answers to the nearest tenth, if necessary.



circumference = _____ cm

area = cm^2

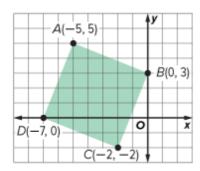
16) Find the perimeter and area of the figure if each unit on the graph measures 1 centimeter. Round answers to the nearest tenth, if necessary.



perimeter = _____ cm

area = cm²

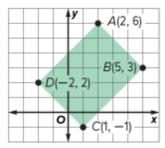
17) Find the perimeter and area of the figure if each unit on the graph measures 1 centimeter. Round answers to the nearest tenth, if necessary.



perimeter = _____ cm

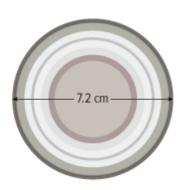
area = cm²

18) Find the perimeter and area of the figure if each unit on the graph measures 1 centimeter. Round answers to the nearest tenth, if necessary.



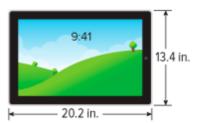
perimeter = _____ cm

19) Use a two-dimensional model and the dimensions provided to calculate the circumference and area of the lid of the can. Round to the nearest tenth, if necessary.



circumference = _____ cm

20) Use a two-dimensional model and the dimensions provided to calculate the perimeter and area of the monitor. Round to the nearest tenth, if necessary.



perimeter = _____ in.

 $area = \underline{\hspace{1cm}} in^2$