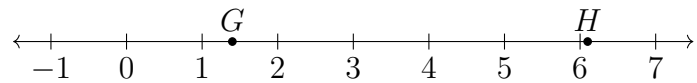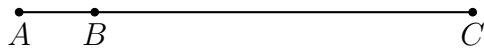**5.6 Exam review: Create equations to solve problems**   **HSA.CED.A1**
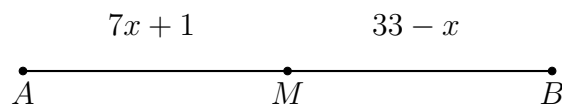
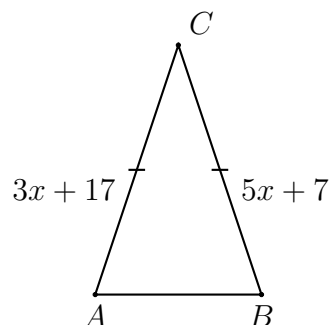1. Find GH, given $G = 1.4$ and $H = 6.1$.

2. Given $\overline{ABC}$, $AB = \frac{2}{3}$, and $AC = 3\frac{1}{3}$. Find BC.

3. Given M is the midpoint of $\overline{AB}$, $AM = 7x + 1$, $MB = 33 - x$. Find x.
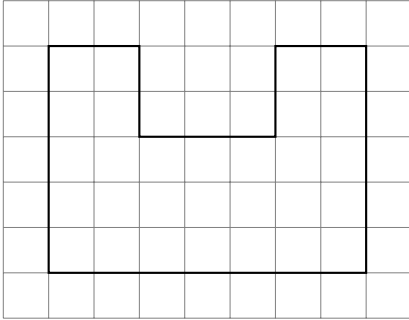
$$7x + 1 \qquad\qquad 33 - x$$

4. Given isosceles $\triangle ABC$ with $\overline{AC} \cong \overline{BC}$. $AC = 5x + 7$ and $BC = 3x + 17$. Find AC.
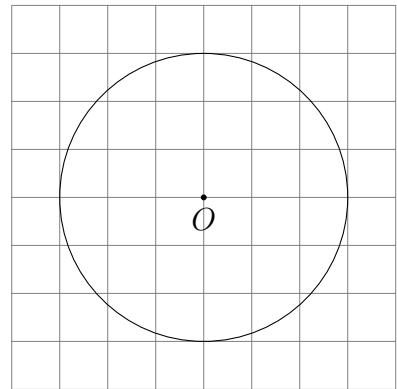
$3x + 17 \qquad 5x + 7$
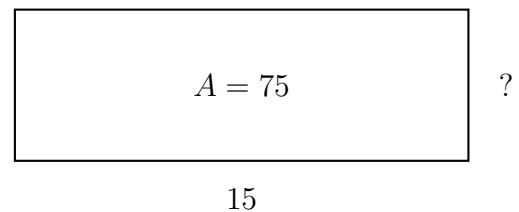
Compute areas and perimeters

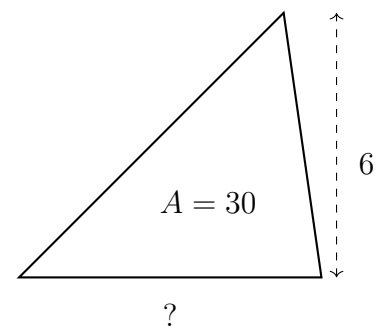5. Find the area A of the shape shown below in terms of unit squares.

6. Given the circle O with radius $r = 3$. Find the area of the circle in terms of π.

7. Find the width of a rectangle with area $A = 75$ and length $l = 15$.

$A = 75$?

15

8. Find the length of the base of a triangle with area $A = 30$ and height $h = 6$.

$A = 30$
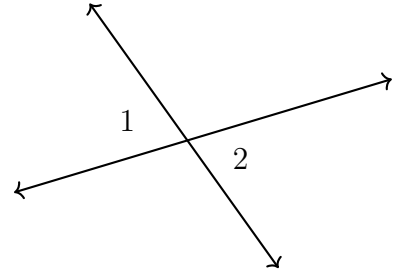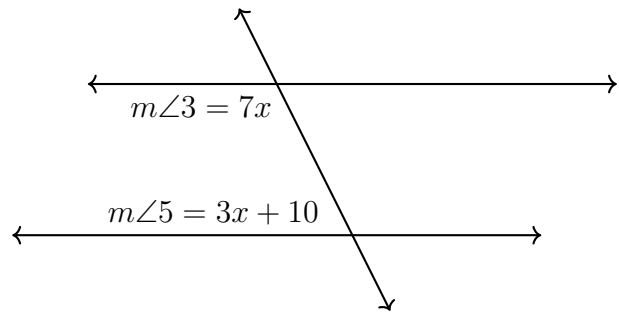
6

?

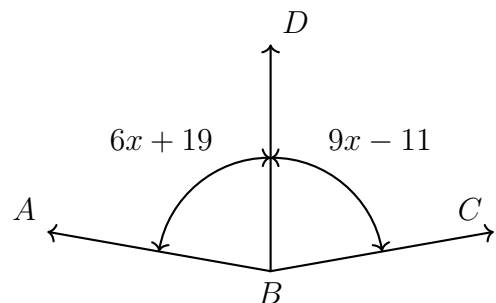**Solve equations in one variable**   **8.EE.C.7**

9. Given two vertical angles as shown, $m\angle 1 = 2x - 30$, and $m\angle 2 = x + 20$. Find x.

10. Given two parallel lines and a transversal, with same-side interior angles $m\angle 3 = 7x$ and $m\angle 5 = 3x + 10$. Solve for x.
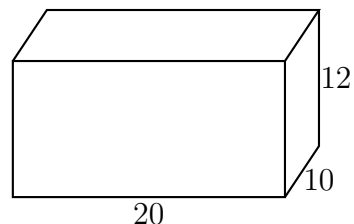
$$m\angle 3 = 7x$$

$$m\angle 5 = 3x + 10$$

11. The ray $\overrightarrow{BD}$ is the angle bisector of $\angle ABC$. Given that the angle measures are $m\angle ABD = 6x + 19$ and $m\angle CBD = 9x - 11$, find x.
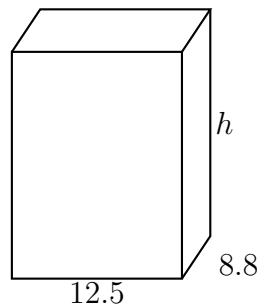
D

$6x + 19$ $9x - 11$

A C

B

Solids, use volume formulas   **HSG.GMD.A.3**

12. Find the volume of a rectangular prism volume of water. Its length is $l = 20$ feet, its height $h = 12$ feet, and depth is $w = 10$ feet.

13. A sphere has a radius of 5 centimeters. Find the volume of the sphere to the *nearest whole cubic centimeter.*

14. The rectangular prism shown has a volume of $V = 1815$ cubic centimeters. Its base measures $l = 12.5$ cm by $w = 8.8$ cm. Find its height in centimeters.

Modeling with geometry: density   **HSG.MG.A.2**

15. Find the population density of Staten Island, New York (Richmond County) in people per square mile.

    Population estimate July 1, 2019: 476,143   Land area in square miles: 58.37