Graph the piecewise function:

 1. $ \frac{2}{3}x , x < -3$ 2. $\left|x+4\right| , x \leq -2$

$ -1 , x= -3 $ $-x-5 , -2 <x <0$

$ \left(x+1 \right)^{2}+3 , x > -3$ $2x+5 , x >0$





3. $\left|x+4\right| , x \leq -2$

 $-\frac{1}{2}x+3 , -2 <x <0$

 $\sqrt{x}-1 , x >0$

Write the piecewise function for the graphs below :

4. 5. 6.



Write the equation for the piecewise function:

**7. 8. 9.**



**10.** In a paintball game, there are only three players left. Darnell and Gunner are on the same side and 20 ft apart. Josh forms an angle of 75o between Gunner and Darnell. Gunner forms a 68o angle between Darnell and Josh. How far is Josh from **both** Darnell and Gunner?

**11.** Rick and Carl want to plant corn along the edges of a triangular plot of land at the prison. Two of the angles of the triangle measure 95o and 40o. The side between these two angles is 80 feet long.

* 1. Find the measure of the third angle.
	2. Find the length of the other two sides of the triangle.
	3. What is the perimeter of this triangular plot of land?

**13**. A ship is sighted from two radar stations 43 km apart. The angle between the line segment joining the two stations and the radar beam of the first station is 37o. The angle between the line segment joining the two stations and the beam from the second station is 113o. How far is the ship from the second station?

**14** During a figure skating routine, Jessica and Shannon skate apart with an angle of 15˚ between them. Jessica skates for 5 meters and Shannon for 7 meters. How far apart are the skaters?

15. Given the function: $f\left(x\right)= \left\{\begin{array}{c}2x-5 if x \leq 1\\4-3x^{2} if x >1\end{array}\right.$

Find: $f\left(4\right)+ 2f\left(-3\right)- 5f(1)$

16. A hot-air balloon crosses over a straight portion of interstate, its pilot eyes two consecutive mile posts on the same side of the balloon. How high is the balloon in ft?

