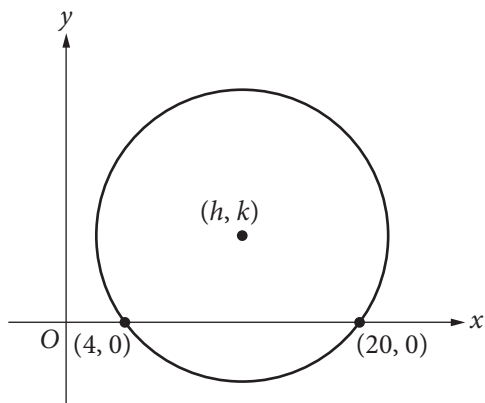




31



In the  $xy$ -plane above, the circle has center  $(h, k)$  and radius 10. What is the value of  $k$ ?

32

In the  $xy$ -plane, line  $\ell$  has a  $y$ -intercept of  $-13$  and is perpendicular to the line with equation  $y = -\frac{2}{3}x$ . If the point  $(10, b)$  is on line  $\ell$ , what is the value of  $b$ ?

33

	Blood type			
Rhesus factor	A	B	AB	O
+	33	9	3	37
-	7	2	1	$x$

Human blood can be classified into four common blood types—A, B, AB, and O. It is also characterized by the presence (+) or absence (–) of the rhesus factor. The table above shows the distribution of blood type and rhesus factor for a group of people. If one of these people who is rhesus negative (–) is chosen at random, the probability that the person has blood type B is  $\frac{1}{9}$ . What is the value of  $x$ ?