31

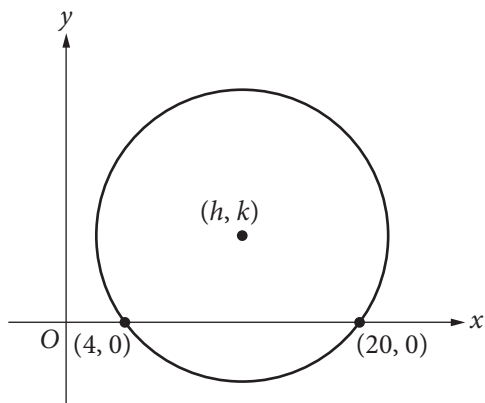In the *xy*-plane above, the circle has center (h, k) and radius 10. What is the value of k ?

32

In the *xy*-plane, line ℓ has a *y*-intercept of -13 and is perpendicular to the line with equation $y = -\dfrac{2}{3}x$. If the point $(10, b)$ is on line ℓ, what is the value of b ?
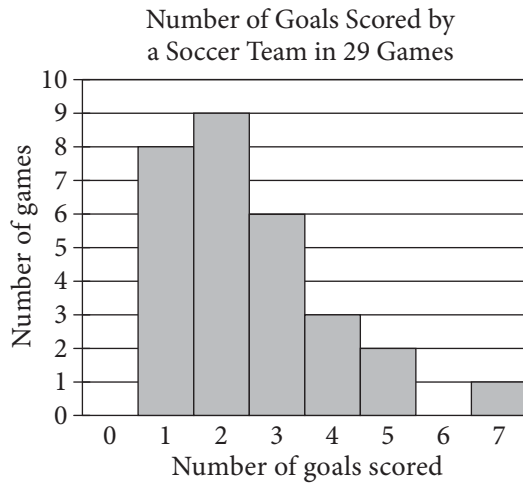
33

	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 $\dfrac{1}{9}$. What is the value of x ?

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34

Number of Goals Scored by
a Soccer Team in 29 Games

Based on the graph above, in how many of the games played did the soccer team score goals equal to the median number of goals for the 29 games?

35

Gisela would owe $15,500 in taxes each year if she were not eligible for any tax deductions. This year, Gisela is eligible for tax deductions that reduce the amount of taxes she owes by $2,325.00. If these tax deductions reduce the taxes Gisela owes this year by d%, what is the value of d ?

36

$$\frac{3}{4}x - \frac{1}{2}y = 12$$
$$ax - by = 9$$

The system of equations above has no solutions. If a and b are constants, what is the value of $\frac{a}{b}$?

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CONTINUE ▶

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Questions 37 and 38 refer to the following information.

International Tourist Arrivals, in millions

Country	2012	2013
France	83.0	84.7
United States	66.7	69.8
Spain	57.5	60.7
China	57.7	55.7
Italy	46.4	47.7
Turkey	35.7	37.8
Germany	30.4	31.5
United Kingdom	26.3	32.2
Russia	24.7	28.4

The table above shows the number of international tourist arrivals, rounded to the nearest tenth of a million, to the top nine tourist destinations in both 2012 and 2013.

37

Based on the information given in the table, how much greater, in millions, was the median number of international tourist arrivals to the top nine tourist destinations in 2013 than the median number in 2012, to the nearest tenth of a million?

38

The number of international tourist arrivals in Russia in 2012 was 13.5% greater than in 2011. The number of international tourist arrivals in Russia was k million more in 2012 than in 2011. What is the value of k to the nearest integer?

STOP

If you finish before time is called, you may check your work on this section only.
Do not turn to any other section.