

For the following questions, a normal distribution has a mean of 43.6 and a standard deviation of 3.6.

Which values are 2 standard deviations from the mean?

$$43,6 + 2(3,6) = \boxed{50,8}$$

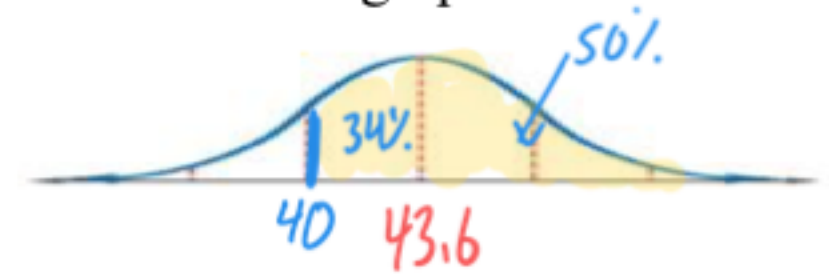
$$43,6 - 2(3,6) = \boxed{36,4}$$

How many standard deviations from the mean is 50?

$$z = \frac{50 - 43,6}{3,6}$$

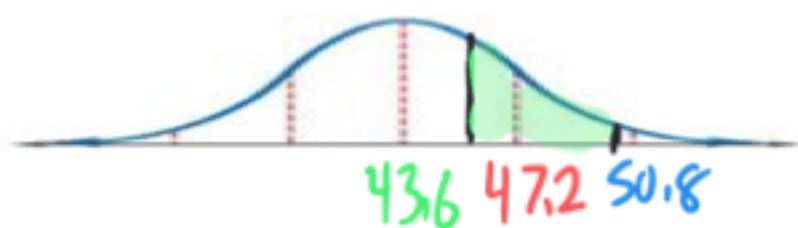
$$\boxed{z = 1,78}$$

What percent of the data is above 40? Shade the graph.



$\boxed{84\%}$

What percent of the data is between 45 and 50? Shade the graph.



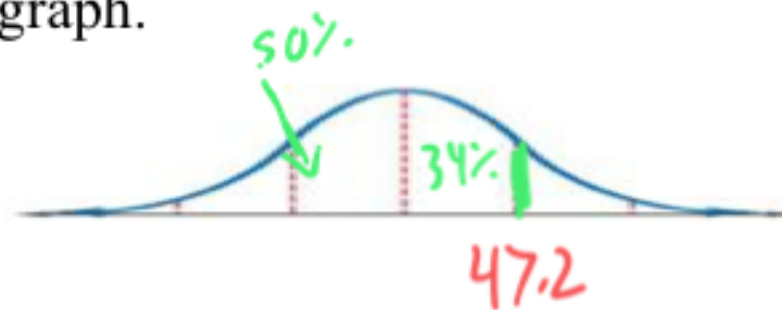
$$z = \frac{45 - 43,6}{3,6} = 0,39 \quad .6517$$

$$z = 1,78 \quad .9625$$

$$.9625 - .6517 = .3108$$

$\boxed{31,08\%}$

What values are in the bottom 84% of the data? Shade the graph.



$$\boxed{X \leq 47,2}$$

Assume the sample size is 230. For a 90% level of confidence, what is the margin of error?

If 90% then $z = 1.645$

If 95% then $z = 1.960$

If 99% then $z = 2.576$

$$E = z \cdot \frac{s}{\sqrt{n}}$$

$$E = 1,645 \cdot \frac{3,6}{\sqrt{230}}$$

$$\boxed{E = .39}$$