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Simplify.

$$\frac{18}{36} \div \boxed{\frac{6}{6}} = \frac{3}{6} \div \boxed{\frac{1}{1}} = \frac{3}{6} \div \boxed{\frac{3}{3}} = \boxed{\frac{1}{2}}$$

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$$\frac{18}{36} \div \boxed{\frac{3}{3}} = \frac{6}{12} \div \boxed{\frac{3}{3}} = \frac{2}{4} \div \boxed{\frac{2}{2}} = \boxed{\frac{1}{2}}$$

Simplify.

$$\frac{7}{56} \cdot \boxed{\frac{7}{7}} = \left(\frac{1}{8}\right)$$

$$\frac{16}{28} \div \boxed{\frac{2}{2}} = \frac{8}{14} \div \boxed{\frac{2}{2}} = \left(\frac{4}{7}\right)$$

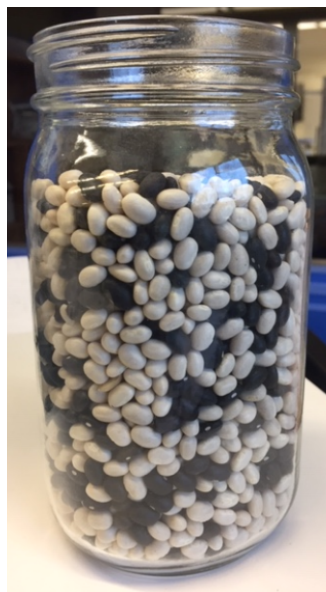$$\frac{16}{28} \div \boxed{\frac{4}{4}} = \left(\frac{4}{7}\right)$$
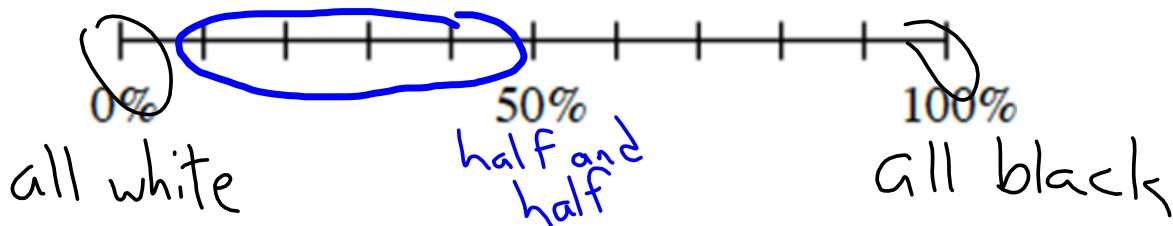
Percent = Per 100

$32\% = \dfrac{32}{100}$

Fraction

$8\% = \dfrac{8}{100}$

Estimate what percent of the jar is black beans.

32% black

45%   50%

45%   35%

50%   30%

40%

percent ruler

all white   half and half   all black

PORTION OF A SAMPLE

Sometimes scientists need to make an estimate of a portion, such as a certain kind of bacteria in a pond or white blood cells in a human body. The technique they use is called **sampling**. They find the portion of the item in a smaller **sample**, such as a small part of the pond water or a vial of blood. Then they assume that the same portion will exist in the whole pond or body.

Bean Sample

3 black beans

7 white beans

10 total beans

What percent of the jar is black beans?

$$\frac{3 \text{ black}}{10 \text{ total}} \cdot \boxed{\frac{10}{10}} = \frac{30}{100} = \boxed{30\%}$$

24^2

$$
\begin{array}{r}
\overset{1}{2}4 \\
\times\ 24 \\
\hline
96 \\
480 \\
\hline
\boxed{576}
\end{array}
$$