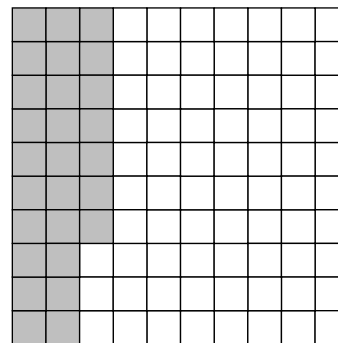# Exploring Percents

Quick Review

This hundredths grid has 100 small squares.
Each square represents $\frac{1}{100}$ of the grid.
Twenty-seven squares are shaded.

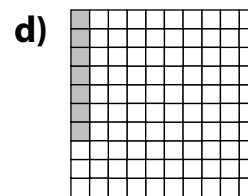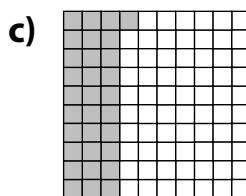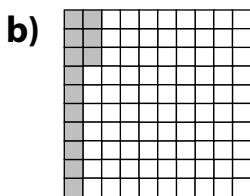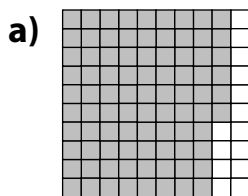You can describe the shaded part of the grid.

➤ 27 out of 100 squares are shaded.

➤ $\frac{27}{100}$ of the grid is shaded.

➤ 0.27 of the grid is shaded.

➤ 27% of the grid is shaded.

Percent means "per hundred" or "out of 100."

This is a **percent** symbol. You read 27% as 27 percent.

Try These

1. Write a fraction with hundredths, a decimal, and a percent to describe the shaded part of each grid.

a)   **b)**   **c)**   **d)**

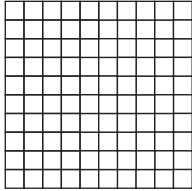_____   _____   _____   _____

2. Write a fraction with hundredths, a decimal, and a percent to describe the unshaded part of each grid in question 1.
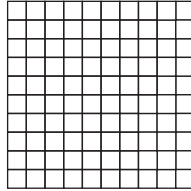
a) _____   **b)** _____   **c)** _____   **d)** _____

1. Colour each hundredths grid to show the percent.
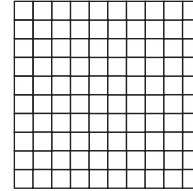
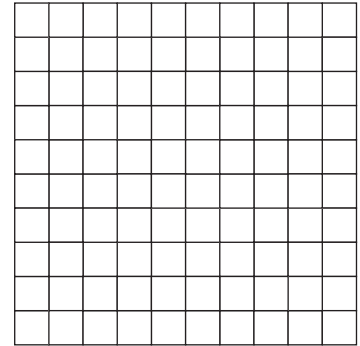   **a)** 42%

   b) 75%

   c) 6%

2. **a)** Use the hundredths grid. Colour 35% blue, 7% red, 40% green, and the rest orange.

   b) Write a fraction and a decimal to describe each colour.

   blue _____   red _____

   green _____   orange _____

   c) What percent is orange? _____

3. Write as a percent and as a decimal.

   a) $\frac{43}{100}$ _____ _____

   b) $\frac{16}{100}$ _____ _____

   c) $\frac{100}{100}$ _____ _____

   d) $\frac{3}{100}$ _____ _____

   e) $\frac{82}{100}$ _____ _____

   f) $\frac{11}{100}$ _____ _____

4. Write as a fraction and as a decimal.

   a) 19% _____ _____

   b) 1% _____ _____

   c) 93% _____ _____

   d) 7% _____ _____

   e) 100% _____ _____

   f) 47% _____ _____
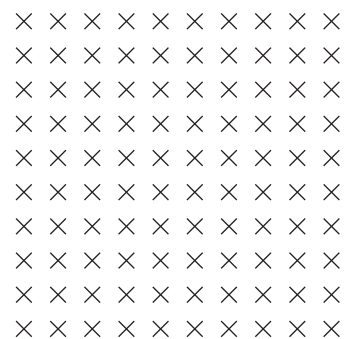
Stretch Your Thinking

Draw a rectangle and an oval around groups of Xs so that all of the following statements are true.
- 64% of the Xs are not inside either figure.
- 8% of the Xs are inside both figures.
- 20% of the Xs are inside the rectangle only.
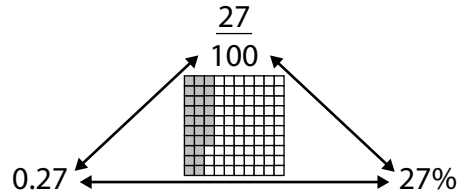- 8% of the Xs are inside the oval only.

```
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Relating Fractions, Decimals, and Percents

Quick Review

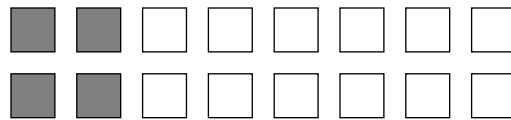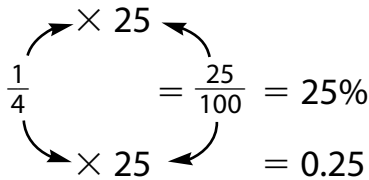Fractions, decimals, and percents are 3 ways to describe parts of a whole.

$\frac{27}{100}$

0.27 ⟷ 27%

➤ $\frac{3}{10}$ of this shape is shaded.

$$\frac{3}{10} = \frac{30}{100} = 30\%$$
$$\times 10 \qquad \times 10 \qquad = 0.30$$
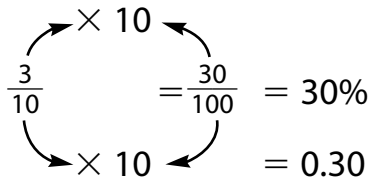
30% of the shape is shaded.

➤ $\frac{1}{4}$ of the squares are shaded.

$$\frac{1}{4} = \frac{25}{100} = 25\%$$
$$\times 25 \qquad \times 25 \qquad = 0.25$$

25% of the squares are shaded.

Try These

1. Write each fraction as a percent and as a decimal.
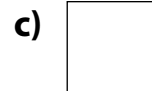
   a) $\frac{9}{100}$ _____ _____

   b) $\frac{7}{10}$ _____ _____
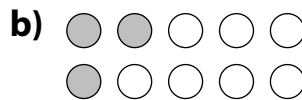
   c) $\frac{4}{25}$ _____ _____

   d) $\frac{1}{5}$ _____ _____

   e) $\frac{7}{50}$ _____ _____

   f) $\frac{11}{20}$ _____ _____

2. What percent is shaded?
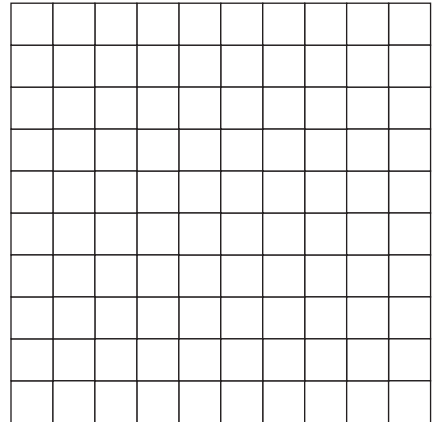
   a)

   b)

   c)

   _____ _____ _____

1. a) Use the hundredths grid to make a design.
Follow these rules:

➤ You can use only red, black,
green, and blue.

➤ You must colour at least $\frac{7}{10}$
of the squares.

➤ You must use:
• red for at least 6% of the squares.
• black for at least 5% of the squares.
• green and blue together for at least 0.4 of the squares.

b) Complete the chart to describe the colours in your design.

Colour	Red	Black	Green	Blue	No Colour
Number of Squares					
Fraction					
Decimal					
Percent of Grid					

c) What is the greatest percent of blank squares you could have in your
design? Explain.

_____

_____

d) What is the sum of your decimals? _____ Percents? _____

What do you think the sum of your fractions would be? _____

Stretch Your Thinking

What percent of Canada's 10 provinces begin with a vowel? With a consonant?
Explain.

_____

_____