



Zayn is checking the quality of pencils made by a machine.

7 out of the 118 pencils that he checked were faulty.

The machine made 6000 pencils.

Use this information to estimate how many of the 6000 pencils were faulty.

$$\approx \frac{7}{118} \text{ of } 6000$$

$$350$$

Simplify

$$\frac{2x^2 + 5x - 3}{x^2 - 9} = \frac{(2x-1)(x+3)}{(x-3)(x+3)}$$

$$\frac{2x-1}{x-3}$$

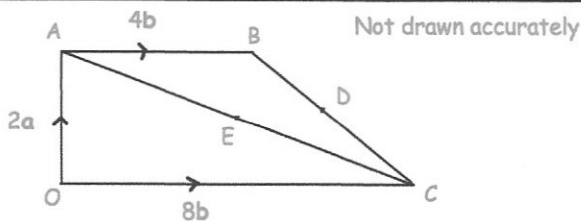
A bag contains 10 counters.  
 4 of the counters are red  
 4 of the counters are purple  
 2 of the counters are white  
 Sharon chooses a counter at random, records the colour, then replaces it.  
 Sharon then chooses a second counter at random and records the colour.

What is the probability that both counters are the same colour?

$$RR \quad \frac{4}{10} \times \frac{4}{10} = \frac{16}{100}$$

$$PP \quad \frac{4}{10} \times \frac{4}{10} = \frac{16}{100} \quad \frac{36}{100} = \frac{9}{25}$$

$$WW \quad \frac{2}{10} \times \frac{2}{10} = \frac{4}{100}$$



Point D is the midpoint of BC.  
 Point E is the midpoint of AC.

Write down a vector for  $\overrightarrow{AC}$

$$8b - 2a$$

Write down a vector for  $\overrightarrow{OB}$

$$2a + 4b$$

Write down a vector for  $\overrightarrow{AE}$

$$4b - a$$