

M6 = 28 days to go!

5 In a choir there are 36 female and 24 male singers.

Write down the ratio of female to male singers in its simplest form.

Small numbers
↙

female : male

$$\begin{array}{l} \div 2 \left(\begin{array}{l} 36 : 24 \\ 18 : 12 \end{array} \right) \div 2 \\ \left(\begin{array}{l} 3 : 2 \end{array} \right) \div 6 \end{array}$$

Answer 3:2 [2]

11 There are four possible results from a music examination.

	15%	50%	30%	5%
Result	Fail	Pass	Credit	Distinction
Probability	0.15 $\frac{3}{20}$	$\frac{1}{2}$	$\frac{3}{10}$	$\frac{1}{20}$
		0.5	0.3	0.05

The probabilities of some results are recorded in the table.

(a) What is the probability of fail?

All probabilities add to 1

Answer 0.15 [2]

(b) What is the probability of credit or distinction?

$$\frac{3}{10} + \frac{1}{20}$$

$$0.3 + 0.05$$

Answer 0.35 [2]

12 Simplify $\frac{m^5 \times m^3}{m^2}$ $\frac{m^8}{m^2}$

Rules of Indices

① $a^m \times a^n = a^{m+n}$
 $2^5 \times 2^4 = 2^9$

② $\frac{a^m}{a^n} = a^{m-n}$

③ $(a^m)^n = a^{mn}$
 $(2^5)^3 = 2^{15}$

$\frac{3^6}{3^2} = 3^4$

Answer m^6 [1]

13 Work out the n^{th} term of the sequence 6, 3, 0, -3, ...

Answer $9-3n$ [2]

6, 3, 0, -3

$\begin{matrix} \curvearrowright & \curvearrowright & \curvearrowright \\ -3 & -3 & -3 \end{matrix}$

goes down in 3

-3n -3 -6 -9 -12

$9-3n$