

Worked Examples

1. Express the fraction $\frac{10}{35}$ in lowest terms.

$$\frac{10}{35} = \frac{10 \div 5}{35 \div 5} = \boxed{\frac{2}{7}}$$

Look for a common divisor of 10 and 35.
5 is a common divisor

2. Out of a total of 243 games, 189 games were sellouts. Express the fraction, $\frac{189}{243}$ in lowest terms.

$$\frac{189}{243} = \frac{189 \div 3}{243 \div 3} = \frac{63}{81}$$

$$\begin{array}{r} 63 \\ 3 \overline{)189} \\ \underline{-18} \\ 9 \\ \underline{-9} \\ 0 \end{array}$$

$$\frac{63 \div 9}{81 \div 9} = \boxed{\frac{7}{9}}$$

$$\begin{array}{r} 81 \\ 3 \overline{)243} \\ \underline{-24} \\ 3 \\ \underline{-3} \\ 0 \end{array}$$

Look for a common divisor.
Recall the divisibility test for 3: Add up the digits and see if the sum is divisible by 3.

$$\begin{array}{l} 1+8+9=18 \leftarrow \text{both} \\ 2+4+3=9 \leftarrow \text{divisible} \\ \text{by 3!} \end{array}$$

3. The ratio of girls to boys is 35 to 91. Express the girl to boy ratio in lowest terms.

$$35 \overset{\div 7}{\text{to}} 91 \overset{\div 7}{=} \boxed{5 \text{ to } 13}$$

The only divisors of 35 are 5 and 7. Look to see if 5 or 7 divides evenly into 91

$$\begin{array}{r} 13 \\ 7 \overline{)91} \\ \underline{-7} \\ 21 \\ \underline{-21} \\ 0 \end{array}$$

7 is a divisor!

Objective: Put a fraction into lowest terms.