

Lesson 8 – Division of Mixed Numbers

Starter

Expand the brackets

1) $3(x - 4)$

2) $4(2a + 7)$

3) $6(1 - 2x + 3y)$

4) $3y(2y + 4)$

5) $x^2(x^3 - 4)$

Starter Answers

1) $3x - 12$

2) $8a + 28$

3) $6 - 12x + 18y$

4) $6y^2 + 4y$

5) $x^5 - 4x^2$

In this lesson, we will look at how to **divide** with **mixed numbers**.

Example 1

Work out $2\frac{1}{3} \div 1\frac{1}{4}$

$$= \frac{7}{3} \div \frac{5}{4}$$

change both mixed numbers to improper fractions

$$= \frac{7}{3} \times \frac{4}{5}$$

$\div \frac{5}{4}$ is the same as multiplying by the reciprocal

$$= \frac{28}{15}$$

multiply the numerators, multiply the denominators

Example 2

Work out $3\frac{3}{4} \div 7$

$$= \frac{15}{4} \div 7$$

change to an improper fraction

$$= \frac{15}{4} \times \frac{1}{7}$$

dividing by 7 is the same as multiplying by its reciprocal ($\frac{1}{7}$)

$$= \frac{15}{28}$$

multiply the numerators, multiply the denominators

Example 3

Work out $10 \div 1\frac{5}{6}$

$$= 10 \div \frac{11}{6}$$

change to an improper fraction

$$= 10 \times \frac{6}{11}$$

dividing by $\frac{11}{6}$ is the same as multiplying by its reciprocal ($\frac{6}{11}$)

$$= \frac{60}{11}$$