

Write Yes if the ratios are equal; No if they are not.

1. $5 : 7$ and $15 : 21$

Yes

2. $4 : 20$ and $3 : 6$

No

3. $8 : 10$ and $4 : 5$

Yes

4. $3 : 6$ and $1 : 2$

Yes

5. $4 : 12$ and $2 : 10$

No

6. $6 : 10$ and $5 : 10$

No

7. $4 : 6$ and $6 : 9$

Yes

8. $4 : 16$ and $3 : 6$

No

9. $9 : 12$ and $12 : 16$

Yes

10. $2 : 18$ and $9 : 24$

No

11. $12 : 21$ and $16 : 28$

Yes

12. $5 : 45$ and $10 : 25$

No

Solution Steps

$$1) \quad 5 : 7 \text{ and } 15 : 21$$

To express the ratio '5 to 7' as a fraction, place 5 over 7 and reduce

To express the ratio '15 to 21' as a fraction, place 15 over 21 and reduce

$\frac{15}{21}$ can be reduced, since 3 is a factor of both 15 and 21:

$$\frac{15}{21} \div \frac{3}{3} = \frac{5}{7}$$

The fraction is now in lowest terms

$$\frac{5}{7} \text{ is equal to } \frac{15}{21}$$

$$2) \quad 4 : 20 \text{ and } 3 : 6$$

To express the ratio '4 to 20' as a fraction, place 4 over 20 and reduce

To express the ratio '3 to 6' as a fraction, place 3 over 6 and reduce

$\frac{4}{20}$ can be reduced, since 4 is a factor of both 4 and 20:

$$\frac{4}{20} \div \frac{4}{4} = \frac{1}{5}$$

The fraction is now in lowest terms

$\frac{3}{6}$ can be reduced, since 3 is a factor of both 3 and 6:

$$\frac{3}{6} \div \frac{3}{3} = \frac{1}{2}$$

The fraction is now in lowest terms

$$\frac{4}{20} \text{ is not equal to } \frac{3}{6}$$

$$^3) 8 : 10 \text{ and } 4 : 5$$

To express the ratio '8 to 10' as a fraction, place 8 over 10 and reduce

To express the ratio '4 to 5' as a fraction, place 4 over 5 and reduce

$\frac{8}{10}$ can be reduced, since 2 is a factor of both 8 and 10:

$$\frac{8}{10} \div \frac{2}{2} = \frac{4}{5}$$

The fraction is now in lowest terms

$$\frac{8}{10} \text{ is equal to } \frac{4}{5}$$

$$^4) 3 : 6 \text{ and } 1 : 2$$

To express the ratio '3 to 6' as a fraction, place 3 over 6 and reduce

To express the ratio '1 to 2' as a fraction, place 1 over 2 and reduce

$\frac{3}{6}$ can be reduced, since 3 is a factor of both 3 and 6:

$$\frac{3}{6} \div \frac{3}{3} = \frac{1}{2}$$

The fraction is now in lowest terms

$$\frac{3}{6} \text{ is equal to } \frac{1}{2}$$

$$^5) 4 : 12 \text{ and } 2 : 10$$

To express the ratio '4 to 12' as a fraction, place 4 over 12 and reduce

To express the ratio '2 to 10' as a fraction, place 2 over 10 and reduce

$\frac{4}{12}$ can be reduced, since 4 is a factor of both 4 and 12:

$$\frac{4}{12} \div \frac{4}{4} = \frac{1}{3}$$

The fraction is now in lowest terms

$\frac{2}{10}$ can be reduced, since 2 is a factor of both 2 and 10:

$$\frac{2}{10} \div \frac{2}{2} = \frac{1}{5}$$

The fraction is now in lowest terms

$$\frac{4}{12} \text{ is not equal to } \frac{2}{10}$$

$$6) \quad 6 : 10 \text{ and } 5 : 10$$

To express the ratio '6 to 10' as a fraction, place 6 over 10 and reduce

To express the ratio '5 to 10' as a fraction, place 5 over 10 and reduce

$\frac{6}{10}$ can be reduced, since 2 is a factor of both 6 and 10:

$$\frac{6}{10} \div \frac{2}{2} = \frac{3}{5}$$

The fraction is now in lowest terms

$\frac{5}{10}$ can be reduced, since 5 is a factor of both 5 and 10:

$$\frac{5}{10} \div \frac{5}{5} = \frac{1}{2}$$

The fraction is now in lowest terms

$\frac{6}{10}$ is not equal to $\frac{5}{10}$

$$7) \quad 4 : 6 \text{ and } 6 : 9$$

To express the ratio '4 to 6' as a fraction, place 4 over 6 and reduce

To express the ratio '6 to 9' as a fraction, place 6 over 9 and reduce

$\frac{4}{6}$ can be reduced, since 2 is a factor of both 4 and 6:

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

The fraction is now in lowest terms

$\frac{6}{9}$ can be reduced, since 3 is a factor of both 6 and 9:

$$\frac{6}{9} \div \frac{3}{3} = \frac{2}{3}$$

The fraction is now in lowest terms

$\frac{4}{6}$ is equal to $\frac{6}{9}$

$$8) 4 : 16 \text{ and } 3 : 6$$

To express the ratio '4 to 16' as a fraction, place 4 over 16 and reduce

To express the ratio '3 to 6' as a fraction, place 3 over 6 and reduce

$\frac{4}{16}$ can be reduced, since 4 is a factor of both 4 and 16:

$$\frac{4}{16} \div \frac{4}{4} = \frac{1}{4}$$

The fraction is now in lowest terms

$\frac{3}{6}$ can be reduced, since 3 is a factor of both 3 and 6:

$$\frac{3}{6} \div \frac{3}{3} = \frac{1}{2}$$

The fraction is now in lowest terms

$\frac{4}{16}$ is not equal to $\frac{3}{6}$

$$9) 9 : 12 \text{ and } 12 : 16$$

To express the ratio '9 to 12' as a fraction, place 9 over 12 and reduce

To express the ratio '12 to 16' as a fraction, place 12 over 16 and reduce

$\frac{9}{12}$ can be reduced, since 3 is a factor of both 9 and 12:

$$\frac{9}{12} \div \frac{3}{3} = \frac{3}{4}$$

The fraction is now in lowest terms

$\frac{12}{16}$ can be reduced, since 4 is a factor of both 12 and 16:

$$\frac{12}{16} \div \frac{4}{4} = \frac{3}{4}$$

The fraction is now in lowest terms

$\frac{9}{12}$ is equal to $\frac{12}{16}$

$$^{10)} 2 : 18 \text{ and } 9 : 24$$

To express the ratio '2 to 18' as a fraction, place 2 over 18 and reduce

To express the ratio '9 to 24' as a fraction, place 9 over 24 and reduce

$\frac{2}{18}$ can be reduced, since 2 is a factor of both 2 and 18:

$$\frac{2}{18} \div \frac{2}{2} = \frac{1}{9}$$

The fraction is now in lowest terms

$\frac{9}{24}$ can be reduced, since 3 is a factor of both 9 and 24:

$$\frac{9}{24} \div \frac{3}{3} = \frac{3}{8}$$

The fraction is now in lowest terms

$\frac{2}{18}$ is not equal to $\frac{9}{24}$

$$^{11)} 12 : 21 \text{ and } 16 : 28$$

To express the ratio '12 to 21' as a fraction, place 12 over 21 and reduce

To express the ratio '16 to 28' as a fraction, place 16 over 28 and reduce

$\frac{12}{21}$ can be reduced, since 3 is a factor of both 12 and 21:

$$\frac{12}{21} \div \frac{3}{3} = \frac{4}{7}$$

The fraction is now in lowest terms

$\frac{16}{28}$ can be reduced, since 4 is a factor of both 16 and 28:

$$\frac{16}{28} \div \frac{4}{4} = \frac{4}{7}$$

The fraction is now in lowest terms

$\frac{12}{21}$ is equal to $\frac{16}{28}$

$$^{12)} 5 : 45 \text{ and } 10 : 25$$

To express the ratio '5 to 45' as a fraction, place 5 over 45 and reduce

To express the ratio '10 to 25' as a fraction, place 10 over 25 and reduce

$\frac{5}{45}$ can be reduced, since 5 is a factor of both 5 and 45:

$$\frac{5}{45} \div \frac{5}{5} = \frac{1}{9}$$

The fraction is now in lowest terms

$\frac{10}{25}$ can be reduced, since 5 is a factor of both 10 and 25:

$$\frac{10}{25} \div \frac{5}{5} = \frac{2}{5}$$

The fraction is now in lowest terms

$\frac{5}{45}$ is not equal to $\frac{10}{25}$