

Multiplying and Dividing Fractions - Worksheet

Skill

Group A - Multiplying Fractions

Multiply the fractions below. Express your answers in lowest terms:

1) $\frac{1}{2} \times \frac{1}{3}$

2) $\frac{1}{8} \times \frac{2}{3}$

3) $\frac{4}{9} \times \frac{3}{5}$

4) $\frac{11}{12} \times \frac{8}{9}$

5) $\frac{2}{9} \times \frac{3}{5} \times \frac{6}{7}$

6) $\frac{2}{9} \times 4$

7) $\frac{9}{10} \times 22$

8) $\frac{8}{3} \times 54$

9) $1\frac{2}{5} \times \frac{2}{3}$

10) $1\frac{7}{8} \times 1\frac{1}{3}$

11) $3\frac{2}{9} \times 6\frac{5}{6}$

12) $1\frac{3}{11} \times 7\frac{2}{9} \times 6\frac{2}{3}$

Group B - Fractions of Amounts

Work out the following:

1) $\frac{1}{2}$ of 20

2) $\frac{1}{10}$ of 50

3) $\frac{1}{7}$ of 84

4) $\frac{2}{5}$ of 30

5) $\frac{3}{4}$ of 60

6) $\frac{7}{9}$ of 99

7) $\frac{8}{9}$ of 108

8) $\frac{14}{15}$ of 75cm

9) $\frac{5}{4}$ of 510mm

10) $\frac{2}{5}$ of 9kg

11) $1\frac{3}{2}$ of £218

12) $\frac{3}{5}$ of 7 litres

Group C - Dividing Fractions

Divide the fractions below. Express your answers in lowest terms:

1) $\frac{1}{4} \div \frac{1}{3}$

2) $\frac{1}{7} \div \frac{1}{8}$

3) $\frac{2}{5} \div \frac{3}{4}$

4) $\frac{9}{10} \div \frac{3}{8}$

5) $\frac{4}{5} \div \frac{3}{8} \div \frac{2}{9}$

6) $\frac{6}{11} \div 4$

7) $\frac{7}{10} \div 9$

8) $\frac{9}{12} \div 54$

9) $1\frac{1}{10} \div \frac{2}{5}$

10) $3\frac{5}{8} \div 7$

11) $4\frac{7}{10} \div 3\frac{3}{5}$

12) $4\frac{3}{10} \div 2\frac{3}{8} \div 1\frac{1}{4}$

Multiplying and Dividing Fractions - Worksheet

Applied

- 1) A rectangle has an area of $5\frac{1}{4}m^2$ and a width of $400cm$.
What is the length of the rectangle?
- 2) (a) If $a = 1\frac{1}{3}$ and $b = 2\frac{1}{4}$ find the value of ab .
- (b) Using the same values of a and b from 2a) find the value of $\frac{a}{b}$.
- 3) (a) Two fractions, when multiplied together result in a product of $3\frac{1}{2}$.
What could the two possible fractions be?
- (b) Two fractions, when divided together result in a quotient of $4\frac{1}{5}$.
What could the two possible fractions be?
- 4) (a) Elham has £300 in her bank account. She spends $\frac{1}{4}$ on her utilities bill and $\frac{3}{8}$ on general expenditures. The rest she gives equally to her 2 daughters as pocket money. How much does she spend on general expenditures?
- (b) One daughter decided to take the money she gets from her mother and give $\frac{1}{4}$ to charity. How much money does the daughter keep for herself?

Multiplying and Dividing Fractions - Exam Questions

1) (a) Work out: $1\frac{1}{3} \times 4\frac{2}{7}$ (2)

(b) Work out: $\frac{3}{4} \div \frac{1}{8}$ (2)
(4 marks)

2) (a) Penny has 54 jelly beans in her jar. (1)
 $\frac{1}{6}$ of them are red.

$\frac{2}{9}$ of them are green.

$\frac{1}{3}$ of them are blue.

The rest are all yellow.

How many jelly beans are green coloured?

(b) How many jelly beans are yellow coloured? (3)
(4 marks)

3) (a) There are 36 cherry pies eaten at a party. (1)
Each person at the party eats $\frac{2}{3}$ of a pie.

Create an equation to calculate how many people were at the party.

(b) Calculate how many people were at the party. (3)
(4 marks)

Multiplying and Dividing Fractions - Exam Questions

- 4) A gardener owns a rectangular plot with the dimensions $3\frac{1}{4}km$ by $4\frac{2}{5}km$.
What is the area of the plot?

.....
(3 marks)

Multiplying and Dividing Fractions - Answers

	Question	Answer
Group A	Skill Questions	
	Multiply the fractions below. Express your answers in lowest terms: 1) $\frac{1}{2} \times \frac{1}{3}$ 2) $\frac{1}{8} \times \frac{2}{3}$ 3) $\frac{4}{9} \times \frac{3}{5}$ 4) $\frac{11}{12} \times \frac{8}{9}$ 5) $\frac{2}{9} \times \frac{3}{5} \times \frac{6}{7}$ 6) $\frac{2}{9} \times 4$ 7) $\frac{9}{10} \times 22$ 8) $\frac{8}{3} \times 54$ 9) $1\frac{2}{5} \times \frac{2}{3}$ 10) $1\frac{7}{8} \times 1\frac{1}{3}$ 11) $3\frac{2}{9} \times 6\frac{5}{6}$ 12) $1\frac{3}{11} \times 7\frac{2}{9} \times 6\frac{2}{3}$	1) $\frac{1}{6}$ 2) $\frac{1}{12}$ 3) $\frac{4}{15}$ 4) $\frac{22}{27}$ 5) $\frac{4}{35}$ 6) $\frac{8}{9}$ 7) $\frac{99}{5}$ 8) 144 9) $\frac{14}{15}$ 10) $\frac{5}{2}$ 11) $\frac{1189}{54}$ 12) $\frac{18200}{297}$
Group B	Work out the following: 1) $\frac{1}{2}$ of 20 2) $\frac{1}{10}$ of 50 3) $\frac{1}{7}$ of 84	1) 10 2) 5 3) 12

Multiplying and Dividing Fractions - Answers

Group B	4) $\frac{2}{5}$ of 30 5) $\frac{3}{4}$ of 60 6) $\frac{7}{9}$ of 99 7) $\frac{8}{9}$ of 108 8) $\frac{14}{15}$ of 75 <i>cm</i> 9) $\frac{5}{4}$ of 510 <i>mm</i> 10) $\frac{2}{5}$ of 9 <i>kg</i> 11) $1\frac{3}{2}$ of £218 12) $\frac{3}{5}$ of 7 litres	4) 12 5) 45 6) 77 7) 96 8) 70 <i>cm</i> 9) 637.5 <i>mm</i> 10) 3.6 <i>kg</i> 11) £545 12) 4.2 litres
Group C	Divide the fractions below. Express your answers in lowest terms: 1) $\frac{1}{4} \div \frac{1}{3}$ 2) $\frac{1}{7} \div \frac{1}{8}$ 3) $\frac{2}{5} \div \frac{3}{4}$ 4) $\frac{9}{10} \div \frac{3}{8}$ 5) $\frac{4}{5} \div \frac{3}{8} \div \frac{2}{9}$ 6) $\frac{6}{11} \div 4$ 7) $\frac{7}{10} \div 9$ 8) $\frac{9}{12} \div 54$	1) $\frac{3}{4}$ 2) $\frac{8}{7}$ 3) $\frac{8}{15}$ 4) $\frac{12}{5}$ 5) $\frac{48}{5}$ 6) $\frac{3}{22}$ 7) $\frac{7}{90}$ 8) $\frac{1}{72}$

Multiplying and Dividing Fractions - Answers

Group C	9) $1\frac{1}{10} \div \frac{2}{5}$ 10) $3\frac{5}{8} \div 7$ 11) $4\frac{7}{10} \div 3\frac{3}{5}$ 12) $4\frac{3}{10} \div 2\frac{3}{8} \div 1\frac{1}{4}$	9) $\frac{11}{4}$ 10) $\frac{29}{56}$ 11) $\frac{47}{36}$ 12) $\frac{688}{475}$
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Multiplying and Dividing Fractions - Answers

	Question	Answer
	Applied Questions	
1)	A rectangle has an area of $5\frac{1}{4}m^2$ and a width of 400 cm. What is the length of the rectangle?	$\frac{21}{16}m$
2)	(a) If $a = 1\frac{1}{3}$ and $b = 2\frac{1}{4}$ find the value of ab. (b) Using the same values of a and b from 2a) find the value of $\frac{a}{b}$.	(a) $ab = 3$ (b) $\frac{a}{b} = \frac{16}{27}$
3)	(a) Two fractions, when multiplied together result in a product of $3\frac{1}{2}$. What could the two possible fractions be? Two fractions, when divided together result (b) in a quotient of $4\frac{1}{5}$. What could the two possible fractions be?	(a) $\frac{1}{2}$ and $\frac{7}{1}$ (b) $\frac{7}{5}$ and $\frac{1}{3}$
4)	(a) Elham has £300 in her bank account. She spends $\frac{1}{4}$ on her utilities bill and $\frac{3}{8}$ on general expenditures. The rest she gives equally to her 2 daughters as pocket money. How much does she spend on general expenditures? (b) One daughter decided to take the money she gets from her mother and give $\frac{1}{4}$ to charity. How much money does the daughter keep for herself?	(a) £112.50 (b) £42.19

Multiplying and Dividing Fractions - Mark Scheme

	Question	Answer	
	Exam Questions		
1) (a)	Work out: $1\frac{1}{3} \times 4\frac{2}{7}$	(a) $\frac{4}{3}$ or $\frac{30}{7}$ seen (converts to improper fraction) $\frac{40}{7}$ seen	(1) (1)
(b)	Work out: $\frac{3}{4} \div \frac{1}{8}$	(b) $\frac{8}{1}$ or evidence of reciprocating $\frac{1}{8}$ seen and evidence of multiplication 6 seen	(1) (1)
2) (a)	Penny has 54 jelly beans in her jar. $\frac{1}{6}$ of them are red. $\frac{2}{9}$ of them are green. $\frac{1}{3}$ of them are blue. The rest are all yellow. How many jelly beans are green coloured?	(a) 12 (cao)	(1)
(b)	How many jelly beans are yellow coloured?	(b) 9 red or 18 blue seen with working Evidence of finding sum and subtracting from 54 15 (cao)	(1) (1) (1)

Multiplying and Dividing Fractions - Mark Scheme

3) (a)	There are 36 cherry pies eaten at a party. Each person at the party eats $\frac{2}{3}$ of a pie.	(a) $36 \div \frac{2}{3}$ or $36 \times \frac{3}{2}$ or equivalent seen	(1)
(b)	Calculate how many people were at the party.	(b) Evidence of finding reciprocal of $\frac{2}{3}$ or $\frac{3}{2}$ seen Evidence of simplifying fraction seen 54 (cao)	(1) (1) (1)
4)	A gardener owns a rectangular plot with the dimensions $3\frac{1}{4}km$ by $4\frac{2}{5}km$. What is the area of the plot?	$\frac{13}{4}$ or $\frac{22}{5}$ seen Evidence of multiplication seen (carry through any mistakes incurred when converting to improper fractions) $\frac{143}{10}km^2$ seen or $14.3 km^2$ seen	(1) (1) (1)

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