

'Greater Depth' Pack 6 Answers

Activity 2.1 Talk Maths	The pairs of numbers that satisfy the equations are as follows:		
	$2a + b = 20$ 1 and 18 2 and 16 3 and 14 4 and 12 5 and 10 6 and 8 7 and 6 8 and 4 9 and 2	$3c - d = 12$ 10 and 18 9 and 15 8 and 12 7 and 9 5 and 3	$4e \div f = 2$ 1 and 2 2 and 4 3 and 6 4 and 8 5 and 10 6 and 12 7 and 14 8 and 16 9 and 18 10 and 20
Activity 2.2 Guided Maths	1. In the equation $5a + b = 100$, the pairs of numbers are: 11 and 45; 12 and 40; 13 and 35; 14 and 30. 2. In the equation $4a + 2b = 48$, the pairs of numbers are: 3 and 18; 4 and 16; 5 and 14; 6 and 12.		
Activity 2.3 Independent Maths	1. In the equation $a + 6b = 60$, the pairs of numbers are: 12 and 8; 18 and 7; 24 and 6; 30 and 5. 2. In the equation $2a + 7b = 53$, the pairs of numbers are: 5.5 and 6; 9 and 5; 12.5 and 4; 16 and 3.		
Assess and Review 2.4	Encourage the children to notice that the child answering the question has given the value of b without understanding that, in the equation, b is multiplied by 3. The correct answers are: when $a = 4$, $b = 32$, when $a = 19$, $b = 27$ and when $a = 55$, $b = 15$.		

Activity 3.1 Talk Maths	All the possible answers to multiplying two of the fractions together are:				
	$\frac{2}{3} \times \frac{2}{5} = \frac{4}{15}$	$\frac{2}{3} \times \frac{1}{6} = \frac{1}{9}$	$\frac{2}{3} \times \frac{2}{7} = \frac{4}{21}$	$\frac{2}{3} \times \frac{3}{8} = \frac{1}{4}$	$\frac{2}{3} \times \frac{7}{10} = \frac{7}{15}$
	$\frac{4}{5} \times \frac{2}{5} = \frac{8}{25}$	$\frac{4}{5} \times \frac{1}{6} = \frac{2}{15}$	$\frac{4}{5} \times \frac{2}{7} = \frac{8}{35}$	$\frac{4}{5} \times \frac{3}{8} = \frac{3}{10}$	$\frac{4}{5} \times \frac{7}{10} = \frac{14}{25}$
	$\frac{5}{6} \times \frac{2}{5} = \frac{1}{3}$	$\frac{5}{6} \times \frac{1}{6} = \frac{5}{36}$	$\frac{5}{6} \times \frac{2}{7} = \frac{5}{21}$	$\frac{5}{6} \times \frac{3}{8} = \frac{5}{16}$	$\frac{5}{6} \times \frac{7}{10} = \frac{7}{12}$
	$\frac{3}{7} \times \frac{2}{5} = \frac{6}{35}$	$\frac{3}{7} \times \frac{1}{6} = \frac{1}{14}$	$\frac{3}{7} \times \frac{2}{7} = \frac{6}{49}$	$\frac{3}{7} \times \frac{3}{8} = \frac{9}{56}$	$\frac{3}{7} \times \frac{7}{10} = \frac{3}{10}$
	$\frac{5}{8} \times \frac{2}{5} = \frac{1}{4}$	$\frac{5}{8} \times \frac{1}{6} = \frac{5}{48}$	$\frac{5}{8} \times \frac{2}{7} = \frac{5}{28}$	$\frac{5}{8} \times \frac{3}{8} = \frac{15}{64}$	$\frac{5}{8} \times \frac{7}{10} = \frac{7}{16}$

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<p>Activity 3.2 Guided Maths</p>	<p>1. $\frac{4}{7} \times 8 = \frac{4}{7} \times \frac{8}{1} = \frac{32}{7} = 4\frac{4}{7}$ cartons of orange juice</p> <p>2. $\frac{3}{8}$ of $\frac{5}{9} = \frac{3}{8} \times \frac{5}{9} = \frac{15}{72} = \frac{5}{24}$ of all the vegetables are potatoes</p> <p>3. $\frac{6}{11} \div 7 = \frac{6}{11} \times \frac{1}{7} = \frac{6}{77}$ of a tub of ice cream in each sundae</p>
<p>Activity 3.3 Independent Maths</p>	<p>1. $\frac{7}{10} \times 12 = \frac{7}{10} \times \frac{12}{1} = \frac{84}{10} = 8\frac{2}{5}$ cartons of orange juice</p> <p>2. $\frac{4}{9}$ of $\frac{9}{12} = \frac{4}{9} \times \frac{9}{12} = \frac{36}{108} = \frac{1}{3}$ of all the vegetables are potatoes</p> <p>3. $\frac{7}{12} \div 9 = \frac{7}{12} \times \frac{1}{9} = \frac{7}{108}$ of a tub of ice cream in each sundae</p>
<p>Assess and Review 3.4</p>	<p>Encourage the children to notice that the child answering the question has written a denominator for the first fraction which, when multiplied with the denominator of the second fraction, is not divisible by 14. The correct denominator of the first fraction is 7 as $7 \times 6 = 42$ which, when divided by 14, equals 3. This gives the common multiple the answer has been simplified by. Therefore, the numerator of the second fraction must be 5 as $3 \times 5 = 15$, which, when simplified by 3, equals 5.</p>

<p>Activity 4.1 Talk Maths</p>	<p>The mean average weight of the gemstones is: $(12.32g + 16.87g + 15.79g + 20.41g + 13.95g) \div 5 = 79.34g$ $79.34g \div 5 = 15.868g$ 15.9g rounded to the nearest tenth of a gram.</p> <p>The mean average value of the gemstones is: $(£176 + £129 + £264 + £192 + £235) \div 5 = £996$ $£996 \div 5 = £199.20$</p>
<p>Activity 4.2 Guided Maths</p>	<p>1. 5 litres = 9 pints 22 inches = 55 centimetres 7 miles = 11.2 kilometres 15kg = 33lbs</p> <p>2. $23.45km + 31.72km + 52.98km + 34.7km + 20.75km + 43.1km = 206.70km$ $206.7km \div 6 = 34.45km$</p>

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<p>Activity 4.3 Independent Maths</p>	<p>1. 7 litres = 12.6 pints 4 feet = 1.2 metres 11 miles = 17,600 metres 13kg = 28.6lbs</p> <p>2. 23.26km + 31.02km + 52.50km + 34.40km + 20.88km + 43.90km + 40.58km = 246.54km 246.54km ÷ 7 = 35.22km</p>
<p>Assess and Review 4.4</p>	<p>Encourage the children to notice that the child answering the question has incorrectly rounded the mean cost to the nearest ten pence instead of one pence. The correct answer is £28.57.</p>

<p>Activity 5.1 Talk Maths</p>	<p>The circles have the following measurements:</p>		
<p>Activity 5.2 Guided Maths</p>	<p>diameter = 20cm, radius 10cm, circumference = approx. 628mm</p>	<p>diameter = 14cm, radius 7cm, circumference = approx. 440mm</p>	<p>diameter = 24cm, radius 12cm, circumference = approx. 754mm</p>
<p>Activity 5.3 Independent Maths</p>	<p>diameter = 11cm, radius 5.5cm, circumference = approx. 345mm</p>	<p>diameter = 30cm, radius 15cm, circumference = approx. 942mm</p>	<p>diameter = 18cm, radius 9cm, circumference = approx. 565mm</p>
<p>Assess and Review 5.4</p>	<p>diameter = 25cm, radius 12.5cm, circumference = approx. 785mm</p>	<p>diameter = 5cm, radius 2.5cm, circumference = approx. 157mm</p>	<p>diameter = 21cm, radius 10.5cm, circumference = approx. 659mm</p>
<p>Activity 5.2 Guided Maths</p>	<p>1. 0.58m × 8 = 4.64m</p> <p>2. 50cm ÷ 4 = 12.5cm</p> <p>3. 24 × 0.78m = 18.72m</p>		
<p>Activity 5.3 Independent Maths</p>	<p>1. 0.93m × 10 = 9.3m</p> <p>2. 58cm ÷ 4 = 14.5cm</p> <p>3. 33 × 1.02m = 33.66m</p>		
<p>Assess and Review 5.4</p>	<p>Encourage the children to notice that the child answering the question has used the radius measurement of the circle as the diameter. The correct perimeter of the rectangle can be calculated by using the diameter of 19cm. The correct perimeter of the rectangle is $2 \times (38\text{cm} + 57\text{cm}) = 190\text{cm} = 1.9\text{m}$.</p>		