

# PASSPORT TWO

## ANSWERS

TOPICS	ANSWERS	TOPICS	ANSWERS																					
1) Time	a) 6 hours and 20 mins b) 8:15 am	7) Shapes	a) Isosceles Triangle b) Cylinder																					
2) Directed Number	1) -2 degrees 2) Fall 6 degrees 3) -7 degrees	8) Area	a) $8\text{cm}^2$ b) $8\text{cm}^2$																					
3) Types of Number	a) 18 b) 3 c) 3 d) 64 d) 27 or 125	9) Angles	1) 75 degrees 2) $150 \div 2 = 75$ degrees																					
4) Coordinates	a) i) (3,-3) ii) (-5,-3) b) along to -1 up to 5 c) Triangle (Isosceles)	10) Bar Charts	<p>Maybe = <math>20 - 15 = 5</math></p> <table border="1" style="display: none;"> <caption>Bar Chart Data</caption> <thead> <tr> <th>Category</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>Yes</td> <td>11</td> </tr> <tr> <td>Maybe</td> <td>5</td> </tr> <tr> <td>No</td> <td>4</td> </tr> </tbody> </table>	Category	Frequency	Yes	11	Maybe	5	No	4													
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5) Simplifying	1) $8a+7b$ 2) $3a$ 3) $7b-3a+7c$	11) Probability	a) $\frac{8}{12} = \frac{2}{3}$ b) $\frac{4}{12} = \frac{1}{3}$																					
6) Sequences	a) 13, 15 b) -3, -8 c) 13, 17 and 25	12) Outcomes	<table border="1" style="text-align: center;"> <thead> <tr> <th>T1</th> <th>T2</th> <th>T3</th> </tr> </thead> <tbody> <tr> <td>T</td> <td>C</td> <td>W</td> </tr> <tr> <td>T</td> <td>W</td> <td>C</td> </tr> <tr> <td>W</td> <td>C</td> <td>T</td> </tr> <tr> <td>W</td> <td>T</td> <td>C</td> </tr> <tr> <td>C</td> <td>T</td> <td>W</td> </tr> <tr> <td>C</td> <td>W</td> <td>T</td> </tr> </tbody> </table>	T1	T2	T3	T	C	W	T	W	C	W	C	T	W	T	C	C	T	W	C	W	T
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Index Notation	<p>a) <math>3^{2+4} = 3^6</math></p> <p>b) <math>5^{6-2} = 5^4</math></p> <p>c) <math>(7^2 \times 7^2 \times 7^2)</math> <math>= 7^{3 \times 2} = 7^6</math></p>	Percentage Decrease	$18.60 \times 0.85 = \text{£}15.81$
Percentage Decrease	<p><math>2500 \times 0.8 = \text{£}2,000</math></p> <p>Or</p> <p>10% = 250 and 20% = 500</p> <p>So <math>2500 - 500 = \text{£}2000</math></p>	Time	<p>6:48am to 7am is 12 mins</p> <p>7am to 8am is 1 hour</p> <p>8am to 8:15am is 15 mins</p> <p>In total</p> <p>1 hour and 27 minutes</p>
Ordering Decimals	<p>0.004, 0.045, 0.405, 0.45, 0.5, 4</p>	Order of Operations	<p>a) <math>12 + 3 = 15</math></p> <p>b) <math>4 + 6 \times 2</math> <math>= 4 + 12</math> <math>= 16</math></p>
Functional Money	<p>Adults: <math>3 \times 12.50 = \text{£}37.50</math></p> <p>Children: <math>5 \times 7.40 = \text{£}37</math></p> <p>Total Cost: <math>37.50 + 37 = \text{£}74.50</math></p> <p>Change <math>80 - 74.5 = \text{£}5.50</math></p> <p>Yes I have enough and will get <math>\text{£}5.50</math> change.</p>	Multiplying and Dividing Fractions	<p>a) <math>\frac{16}{20} - \frac{5}{20} = \frac{11}{20}</math></p> <p>b) <math>\frac{3}{12} = \frac{1}{4}</math></p> <p>c) <math>\frac{7}{8} \times \frac{5}{4} = \frac{35}{32} = 1 \frac{3}{32}</math></p>

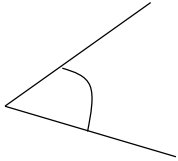
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### Algebra

TOPICS	ANSWERS	TOPICS	ANSWERS																					
Mid Point of Coordinates	<p><b>X coordinates</b></p> $\frac{4 + 10}{2} = \frac{14}{2} = 7$ <p><b>Y coordinates</b></p> $\frac{6 + 8}{2} = \frac{14}{2} = 7$ <p><b>Midpoint - (7, 7)</b></p>	Solve 2 step equations	$2x + 4 = 18$ $2x = 14$ $x = 7$																					
Expand Single Brackets	<p>a) <math>3x + 12</math></p> <p>b) <math>14x - 35</math></p> <p>c) <math>x^2 + 8x</math></p>	Simplify	<p>a) <math>3a</math></p> <p>b) <math>a + 9b</math></p> <p>c) <math>9a - 7b</math></p>																					
Factorise	<p>a) <math>4(x + 5)</math></p> <p>b) <math>4(3x + 7)</math></p> <p>c) <math>3y(y + 4)</math></p>	Plot a linear Graph	<table border="1"> <tr> <td>x</td> <td>-4</td> <td>-3</td> <td>-2</td> <td>-1</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>y</td> <td>-3</td> <td>-1</td> <td>1</td> <td>3</td> <td>5</td> <td>7</td> <td>9</td> <td>11</td> <td>13</td> </tr> </table>	x	-4	-3	-2	-1	0	1	2	3	4	y	-3	-1	1	3	5	7	9	11	13	
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Trial and Improvement	<table border="1"> <thead> <tr> <th>Value</th> <th>Output</th> <th>Big/Small</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>35</td> <td>Small</td> </tr> <tr> <td>6</td> <td>48</td> <td>big</td> </tr> <tr> <td>5.5</td> <td>41.25</td> <td>Big</td> </tr> <tr> <td>5.4</td> <td>39.96</td> <td>Small</td> </tr> <tr> <td>5.45</td> <td>40.6</td> <td>Big</td> </tr> <tr> <td colspan="3" style="text-align: center;">Answer <math>x = 5.4</math></td> </tr> </tbody> </table>	Value	Output	Big/Small	5	35	Small	6	48	big	5.5	41.25	Big	5.4	39.96	Small	5.45	40.6	Big	Answer $x = 5.4$			Function Machines	<p>a) Output <math>3 \times 7 = 21</math></p> <p>b) Input <math>21 - 4 = 17</math></p> <p>c) Output <math>7 \times 3 - 5 = 21 - 5 = 16</math></p>
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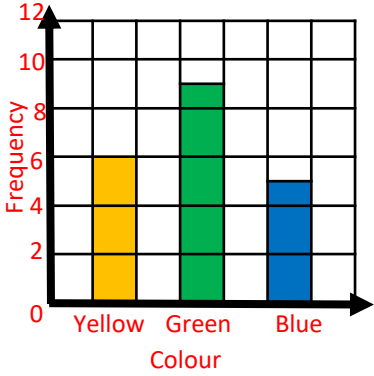
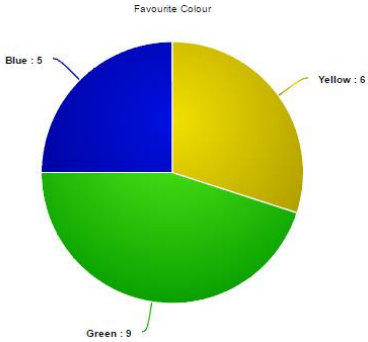
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**Shapes and Measures**

TOPICS	ANSWERS	TOPICS	ANSWERS
Angles in a Triangle	$67 + 67 = 134$ $180 - 134 = 46^\circ$ $a = 46^\circ$	Angles in a Quadrilateral.	$90 + 90 + 54 = 234$ $360 - 234 = 126^\circ$ $b = 126^\circ$
Identify Shapes	<b>Cylinder</b>	Types of Angle	<b>Sketch and label an angle less than 90 degrees.</b>  <b>E.g.</b> 
Volume of a Cuboid	$10 \times 5 \times 9 = 45 \times 10$ $= 450\text{cm}^3$		<ul style="list-style-type: none"> <li>• Travel northwest along Long Acre Road.</li> <li>• Continue Straight on onto Great Queen St.</li> <li>• Take the 2<sup>nd</sup> left off Great Queens St onto Kings Way.</li> <li>• Between the 2<sup>nd</sup> and 3<sup>rd</sup> turnings on the right will be Holborn Station.</li> </ul>
Transformation - Rotation	<b>Rotation</b> <b>180 degrees</b> <b>About the centre (0,0)</b>		

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### Statistics

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Bar Chart		Expected Probability	$\frac{2}{5}$ of 150 $\frac{150}{5} \times 2 = 30 \times 2 = 60$ <b>60 Games</b>																																	
		Averages	<ol style="list-style-type: none"> <li>Mean = <math>\frac{3+12+5+8+6+6}{6} = \frac{40}{6} = 6\frac{2}{3}</math> or 6.7</li> <li>Median = 6</li> <li>Mode = 6</li> <li>Range = <math>12 - 3 = 9</math></li> </ol>																																	
Pie Chart	<table border="1"> <thead> <tr> <th>Colour</th> <th>Frequency</th> <th>Deg</th> </tr> </thead> <tbody> <tr> <td>Yellow</td> <td>6</td> <td>168</td> </tr> <tr> <td>Green</td> <td>9</td> <td>162</td> </tr> <tr> <td>Blue</td> <td>5</td> <td>90</td> </tr> <tr> <td></td> <td>20</td> <td>360</td> </tr> </tbody> </table> <p>Deg per item = <math>\frac{360}{20} = 18^\circ</math></p> 	Colour	Frequency	Deg	Yellow	6	168	Green	9	162	Blue	5	90		20	360	Mean from a Table	<table border="1"> <thead> <tr> <th>Letters Delivered</th> <th>Freq</th> <th>Fx</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td>1</td> <td>7</td> <td>7</td> </tr> <tr> <td>2</td> <td>8</td> <td>16</td> </tr> <tr> <td>3</td> <td>6</td> <td>18</td> </tr> <tr> <td></td> <td>30</td> <td>41</td> </tr> </tbody> </table> <p>Mean = <math>\frac{41}{30} = 1.37</math></p>	Letters Delivered	Freq	Fx	0	9	0	1	7	7	2	8	16	3	6	18		30	41
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		Probability	$0.17 + 0.36 + 0.28 = 0.81$ $1 - 0.81 = 0.19$ Probability of yellow = 0.19																																	