

Test A

Question	Topic		Score
1	Rounding to decimal places	<p>Round each number to the given number of decimal places:</p> <p>3.7105 (1dp) → <u>3.7</u>    10.4294 (2dp) → <u>10.43</u>            87.99 (1dp) → <u>88.0</u>    346.9981 (2dp) → <u>347.00</u></p>	
2	Rounding to significant figures	<p>Round each number to the given number of significant figures:</p> <p>236 (1sf) → <u>200</u>    4785 (2sf) → <u>4800</u>            0.024581 (2sf) → <u>0.025</u>    5.819312 (3sf) → <u>5.82</u>            3.68 x 2.7 = <u>9.936</u>    32.4 x 0.91 = <u>29.484</u></p>	
3	Multiplication		
4	Division	<p>552 ÷ 12 = <u>46</u>    3235 ÷ 64 = <u>50.546875</u></p>	
5	Subtraction	<p>4726 - 1964 = <u>2762</u>    49.525 - 32.78 = <u>16.745</u></p>	
6	Calculating with negatives	<p>-4 - 7 + 2 = <u>-9</u>    5 + -6 = <u>-1</u>            (4 - -10) x -3 = <u>-42</u>    5 + - (-64 ÷ -8) = <u>-3</u></p>	
7	Evaluating powers and roots	<p>5<sup>2</sup> = <u>25</u>    3<sup>4</sup> = <u>81</u>    2<sup>6</sup> = <u>64</u>  <math>\sqrt{81}</math> = <u>9</u>    <math>(\sqrt{25})^3</math> = <u>125</u>    <math>\sqrt[3]{1000}</math> = <u>10</u></p>	
8	Calculating fractions of amounts	<p><math>\frac{1}{4}</math> of 48 = <u>12</u>    <math>\frac{2}{3}</math> of 36 = <u>24</u>  <math>\frac{2}{5}</math> of 85 = <u>34</u>    <math>\frac{5}{11}</math> of 77 = <u>35</u></p>	

9	Simplifying fractions	<p>Write these fractions in their simplest form:</p> $\frac{24}{40} = \boxed{\frac{3}{5}}$ $\frac{15}{80} = \boxed{\frac{3}{16}}$ $\frac{750}{900} = \boxed{\frac{5}{6}}$ $\frac{3150}{3465} = \boxed{\frac{10}{11}}$																								
10	Converting between improper fractions and mixed numbers	<p>Write these mixed numbers as improper fractions:</p> $3\frac{3}{4} = \frac{13}{4}$ $5\frac{1}{2} = \frac{11}{2}$ $4\frac{2}{3} = \frac{14}{3}$ <p>Write these improper fractions as mixed numbers:</p> $\frac{11}{5} = \boxed{2\frac{1}{5}}$ $\frac{21}{6} = \boxed{3\frac{1}{2}}$ $\frac{38}{9} = \boxed{4\frac{2}{9}}$																								
11	FDP equivalency	<p>Fill in the gaps:</p> <table border="1" data-bbox="931 654 1411 1420"> <thead> <tr> <th>Fraction</th> <th>Decimal</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td><math>\frac{2}{5}</math></td> <td>0.4</td> <td>40%</td> </tr> <tr> <td><math>\frac{13}{20}</math></td> <td>0.65</td> <td>65%</td> </tr> <tr> <td><math>\frac{7}{100}</math></td> <td>0.07</td> <td>7%</td> </tr> <tr> <td><math>\frac{1}{5}</math></td> <td>0.2</td> <td>20%</td> </tr> <tr> <td><math>\frac{7}{20}</math></td> <td>0.35</td> <td>35%</td> </tr> <tr> <td><math>\frac{113}{250}</math></td> <td>0.452</td> <td>45.2%</td> </tr> <tr> <td><math>\frac{1}{3}</math></td> <td>0.3</td> <td>33.3%</td> </tr> </tbody> </table>	Fraction	Decimal	Percentage	$\frac{2}{5}$	0.4	40%	$\frac{13}{20}$	0.65	65%	$\frac{7}{100}$	0.07	7%	$\frac{1}{5}$	0.2	20%	$\frac{7}{20}$	0.35	35%	$\frac{113}{250}$	0.452	45.2%	$\frac{1}{3}$	0.3	33.3%
Fraction	Decimal	Percentage																								
$\frac{2}{5}$	0.4	40%																								
$\frac{13}{20}$	0.65	65%																								
$\frac{7}{100}$	0.07	7%																								
$\frac{1}{5}$	0.2	20%																								
$\frac{7}{20}$	0.35	35%																								
$\frac{113}{250}$	0.452	45.2%																								
$\frac{1}{3}$	0.3	33.3%																								
12	Adding and subtracting fractions	$\frac{3}{8} + \frac{2}{5} = \boxed{\frac{31}{40}}$ $\frac{6}{11} + \frac{4}{7} = \boxed{\frac{36}{77}}$ $\frac{5}{6} - \frac{1}{3} = \boxed{\frac{3-1}{6} = \frac{2}{6} = \frac{1}{3}}$ $\frac{7}{8} - \frac{2}{5} = \boxed{\frac{19}{40}}$																								
13	Multiplying and dividing with fractions	$\frac{2}{3} \times 30 = \boxed{20}$ $\frac{3}{5} \times \frac{2}{7} = \boxed{\frac{6}{35}}$ $50 \div 5 = \frac{70}{7}$ $\frac{7}{8} \div \frac{2}{5} = \boxed{\frac{35}{16}}$																								

Test A

14	Identifying different types of number	<p>What is the sixth prime number? <u>13</u></p> <p>What is the second number that is both a square and a cube number? <u>64</u></p> <p>Which integers less than 100 are both square and triangular? <u>1</u></p>	
15	BIDMAS	<p><math>5 \times 6 - 8 = \underline{22}</math></p> <p><math>2 + 3^2 \times 10 = \underline{92}</math></p> <p><math>\frac{(2^3 \times 3 + 8) \times 2}{4^2 \times (4 \div 8)} = \underline{1}</math></p> <p><math>\frac{18 - 6 \times 2}{2^3 - 3^2 \div 3} = \underline{\frac{6}{5}}</math></p>	
16	Calculating percentages of amounts	<p>20% of 680 = <u>136</u>    15% of 960 = <u>144</u></p> <p>43% of 5400 = <u>2322</u></p>	
17	Calculating prices after a percentage change	<p>My original salary was £26 000. I am given a 5% pay rise. What is my new salary? <u>£ 27300</u></p> <p>A jacket originally cost £65. What is its price after a 10% reduction? <u>£ 58.50</u></p>	
18	Reverse percentages	<p>After a 25% reduction, a jacket costs £48. What was the original cost? <u>£64</u></p> <p>After a 20% increase in price, fuel costs £1.20 per litre. What was the original cost? <u>£1</u></p>	
19	Writing and interpreting numbers in standard form	<p>Write these numbers in standard form:</p> <p><math>54000 = \underline{5.4 \times 10^4}</math>    <math>98500 = \underline{9.85 \times 10^4}</math></p> <p><math>236.78 = \underline{2.3678 \times 10^{-2}}</math>    <math>0.00679 = \underline{6.79 \times 10^{-3}}</math></p> <p>Write these numbers as ordinary numbers:</p> <p><math>4.61 \times 10^5 = \underline{461000}</math></p> <p><math>9.3 \times 10^{-3} = \underline{0.0093}</math></p>	

Test A

20	Multiplying and dividing by small powers of 10 and their multiples	$60 \times 0.01 = \underline{0.6}$ $0.61 \div 0.01 = \underline{61}$ $54 \times 0.05 = \underline{2.7}$ $320 \div 0.2 = \underline{1600}$	
21	Standard form calculations	<p>Work out the answers to these calculations, giving your answers in standard form:</p> $3.2 \times 10^3 + 4.56 \times 10^2 = \underline{3656} = \underline{3.656 \times 10^3}$ $5.28 \times 10^4 - 8.6 \times 10^2 = \underline{51940} = \underline{5.1940 \times 10^4}$ $1.2 \times 10^3 \times 4 \times 10^8 = \underline{4800000000} = \underline{4.8 \times 10^{11}}$ $1.25 \times 10^9 \div 2.5 \times 10^5 = \underline{5000} = \underline{5 \times 10^3}$	
22	HCF	<p>Work out the highest common factors of these pairs of numbers:</p> $(45, 60) \quad \underline{15}$ $(315, 150) \quad \underline{15}$ $(1200, 840) \quad \underline{120}$	
23	LCM	<p>Work out the lowest common multiples of these pairs of numbers:</p> $(12, 8) \quad \underline{24}$ $(13, 15) \quad \underline{195}$ $(96, 64) \quad \underline{192}$	
24	Given the answer to one calculation, work out the answer to related calculations	$34 \times 78 = 2652$ What is the value of $26.52 \div 34$ ? $\underline{0.78}$ $478 \div 25 = 19.12$ What is the value of $1912 \times 2.5$ ? $\underline{4780}$	