Y9 – Autumn – Block 3 – Step 1 – Solve problems with bills and bank statements Answers

<table>
<tr><th>Question</th><th>Answer</th></tr>
<tr><td>1</td><td>a) number of each item
b) £1.09
c) £1.29
d) £0.49
e) £8.66</td></tr>
<tr><td>2</td><td>@ indicates the cost of each item. So a loaf of bread costs 80p and the carton of mango juice costs £1.25</td></tr>
<tr><td>3</td><td>a) 2
b) 9
c) 6
d) £0.85
e) £2.55
f) She has used the total price, but this is for three bags of flour. So one bag of flour costs £1.13
g)
<table>
<tr><th colspan="4">FRESH FOODS DAILY</th></tr>
<tr><th>Qty</th><th>Item</th><th>Unit price</th><th>Total price</th></tr>
<tr><td>2</td><td>Cranberry juice 1 L</td><td>£1.45</td><td>£2.90</td></tr>
<tr><td>1</td><td>Ready salted crisps (6 pk)</td><td>£0.96</td><td>£0.96</td></tr>
<tr><td>1</td><td>Bag of apples</td><td>£2.30</td><td>£2.30</td></tr>
<tr><td>3</td><td>Dog food tin</td><td>£0.85</td><td>£2.55</td></tr>
<tr><td>3</td><td>Plain flour (3 kg)</td><td>£1.13</td><td>£3.39</td></tr>
<tr><td></td><td></td><td>Total cost</td><td>£12.10</td></tr>
</table>
h) £10.89</td></tr>
<tr><td>4</td><td>a) £219.72
b) £38.99
c) 03/02/2021
d) £115.52
e)
<table>
<tr><th>DATE</th><th>DESCRIPTION</th><th>CREDIT (£)</th><th>DEBIT (£)</th><th>BALANCE (£)</th></tr>
<tr><td></td><td>Starting balance</td><td></td><td></td><td>219.72</td></tr>
<tr><td>01/02/2021</td><td>Salary</td><td>1755.23</td><td></td><td>1974.95</td></tr>
<tr><td>02/02/2021</td><td>Phone</td><td></td><td>76.53</td><td>1898.42</td></tr>
<tr><td>02/02/2021</td><td>Online Beauty Shop</td><td></td><td>38.99</td><td>1859.43</td></tr>
<tr><td>03/02/2021</td><td>Rent</td><td></td><td>395.00</td><td>1464.43</td></tr>
<tr><td>03/02/2021</td><td>TV Subscription</td><td></td><td>7.99</td><td>1456.44</td></tr>
<tr><td></td><td>End balance</td><td></td><td></td><td>1456.44</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Question</th><th>Answer</th></tr>
<tr><td>5</td><td>a) A negative account balance means that Mr Hall has spent more money that he had in his account.
b) £84.30</td></tr>
<tr><td>6</td><td>a) 2,800
b) 3.6p
c) a fee that is charged every quarter, regardless of how much gas is used
d)
<table>
<tr><td>12 August 2020 meter reading</td><td>12,932 kWh</td></tr>
<tr><td>11 November 2020 meter reading</td><td>15,732 kWh</td></tr>
<tr><td>Actual kWh used</td><td>2800</td></tr>
<tr><td>Standing charge</td><td>£24.50</td></tr>
<tr><td>Charge for gas @ 3.60p per kWh</td><td>£100.80</td></tr>
<tr><td>Subtotal</td><td>£125.30</td></tr>
<tr><td>VAT at 5%</td><td>£6.265</td></tr>
</table>
e) £115.78</td></tr>
</table>

Y9 – Autumn – Block 3 – Step 2 – Calculate simple interest Answers

Question	Answer
1	a) £5 b) £30 c) £100 d) £6 e) £10 f) £24
2	a) £505 b) £780 c) £2,100 d) £307.50 e) £407.20 f) £825.60
3	a) Esther has only calculated the increase, not the amount after the increase. b) Jack has calculated the amount after an increase of 30%. c) 721
4	a) 1.1 b) 1.01 c) 1.14 d) 1.075
5	a) £467.50 b) £770.63 c) £613.32 d) £305.30
6	a) £2,100 b) £2,200 c) £2,300 d) £2,500 e) $2,000 + 100n$ The amount in the account goes up by the same amount each year.
7	a) £810.12 b) £885.48 c) £175.84
8	Albany Bank £15.40
9	6 years Some students may have added the annual interest until the total was more than £1,400 Others may have worked out 1,400 – 1,240 and divided by the annual interest.

Question	Answer
10	34 years In this case, it is not efficient to keep adding the annual interest until the investment has double. Students need to divide £2,700 by the annual interest.
11	2.5%

Y9 – Autumn – Block 3 – Step 3 – Calculate compound interest Answers

<table>
<tr><th>Question</th><th>Answer</th></tr>
<tr><td>1</td><td>a) 1.07
b) 0.91
c) 1.082
d) 0.965
e) 0.993
f) 1.112</td></tr>
<tr><td>2</td><td>a) £1,050
b) £1,102.50
c) £1,157.63
The answer to each part is the starting number for the next part. The amount of the increase is greater each time.</td></tr>
<tr><td>3</td><td>a)
<table>
<tr><th>Year</th><th>Starting balance</th><th>Calculation</th><th>Balance at end of year</th></tr>
<tr><td>1</td><td>£5,000</td><td>5,000 × 1.02</td><td>£5,100</td></tr>
<tr><td>2</td><td>£5,100</td><td>5,100 × 1.02</td><td>£5,202</td></tr>
<tr><td>3</td><td>£5,202</td><td>5,202 × 1.02</td><td>£5,306.04</td></tr>
<tr><td>4</td><td>£5,306.04</td><td>5,306.s04 × 1.02</td><td>£5,412.16</td></tr>
<tr><td>5</td><td>£5,412.16</td><td>5,412.16 × 1.02</td><td>£5,520.40</td></tr>
</table>
b) £520.40</td></tr>
<tr><td>4</td><td>a) Dani has assumed that the interest each year is worked out using the starting investment, not the amount in the account at the start of each year. She has worked out simple interest, not compound interest.
b) £3,041.63</td></tr>
<tr><td>5</td><td>£3,376.53</td></tr>
<tr><td>6</td><td>£1,576.39</td></tr>
<tr><td>7</td><td>Both Mo and Alex have found the amount at the end of 2 years.
For each year, Mo has worked out the amount of interest and added it to the amount at the start of the year. Alex has done a single calculation.</td></tr>
<tr><td>8</td><td>£19,237.87</td></tr>
<tr><td>9</td><td>a) account A
b) account B</td></tr>
<tr><td>10</td><td>$x = 7.5$</td></tr>
</table>

Y9 – Autumn – Block 3 – Step 4 – Solve problems with Value Added Tax Answers

Question	Answer
1	a) £288 b) $240 \times 1.2 = 288$
2	a) She needs to add on the VAT. b) £180
3	a) £8,040 b) £162 c) £1,078.80
4	£136.50
5	£150
6	a) £115 b) £1,332.50
7	€196.35
8	£551.25
9	$26.25

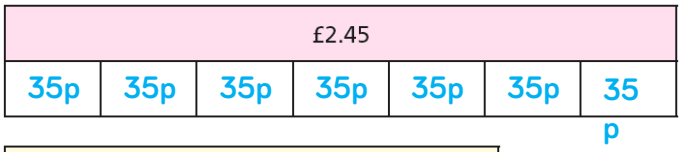
Y9 – Autumn – Block 3 – Step 5 – Calculate wages and taxes Answers

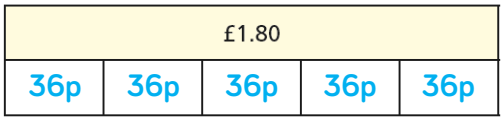
Question	Answer
1	a) £58.50 b) £117 c) £438.75
2	a) Working part-time means only working for part of the week, normally less than 35 hours per week. b) 6 c) £62.40 d) £57.20 e) £218.40 Students could either work out how much he earns each day and them add them up, or work out the number of hours worked in the week and then multiply by the hourly rate.
3	£428.50
4	£2,275
5	a) They earn less that £12,500 per year, so their income is tax free. b) He has calculated 20% of his whole earnings. He should subtract the tax-free amount first. c) £1,808.33 d) £22,300 e) £9,687.50
6	country A
7	£1,968.75
9	£5,880

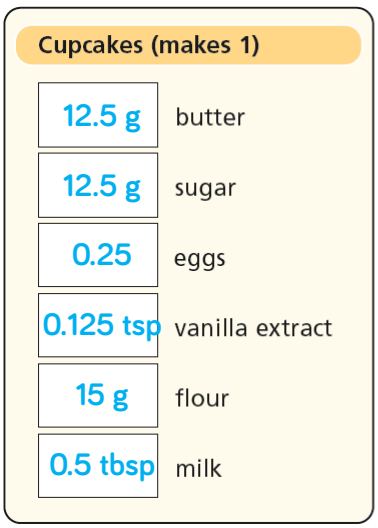
Y9 – Autumn – Block 3 – Step 6 – Solve problems with exchange rates Answers

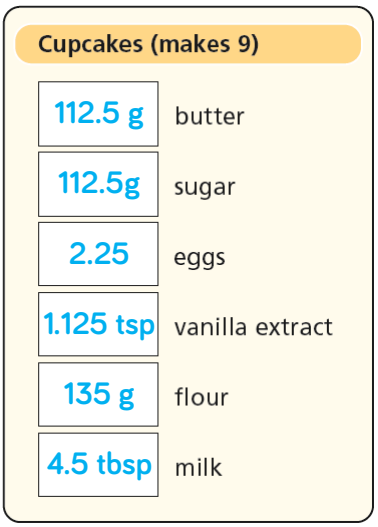
Question	Answer
1	a)  b) 1,600 kr c) 8,000 kr d) 11,680 kr e) £50 f) £64
2	a) 4,640,000 Ush b) £10,000
3	a) £5 b) £11 c) £24.20 d) $60 e) $800 f) $12 g) Australia $90 = £49.50, which is less than £50
4	a) $1,143 b) £125.98
5	£111.51
6	the UK $1.22 or £0.96 cheaper
7	£1 = ¥136
8	a) 16 b) £16.81

Y9 – Autumn – Block 3 – Step 7 – Solve unit pricing problems Answers

<table>
<tr><th>Question</th><th>Answer</th></tr>
<tr><td>1</td><td>a)
Pink Lady
 

Gala
 

b) Pink Lady, because the price of each apple is lower.</td></tr>
<tr><td>2</td><td>a) £3
b) 3p</td></tr>
<tr><td>3</td><td>a)
 

b)
 

Either multiply the amounts in part a) by 9, or add the amounts in part a) to the amounts in the original recipe.</td></tr>
<tr><td>4</td><td>pack of 9 bottles</td></tr>
<tr><td>5</td><td>bag B</td></tr>
</table>

Y9 – Autumn – Block 3 – Step 7 – Solve unit pricing problems Answers (continued)

Question	Answer
6	bottle A
7	farm shop
8	LoPrices
9	1 pack of 12, 1 pack of 6 and 3 individual £152.16