**NUMERACY AND DATA ANALYSIS PRACTICE SHEET 5**

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| 1 | Following data shows the annual sales of a company from 2000 to 2007   |  |  | | --- | --- | | **Year** | **Annual Sales (£000)** | | 2000 | 3.5 | | 2001 | 3.2 | | 2002 | 4.1 | | 2003 | 4.6 | | 2004 | 4.8 | | 2005 | 3.9 | | 2006 | 4.7 | | 2007 | 4.9 |        1. Using 2004 as the base year, calculate the index numbers for annual sales for the given period of time. Show the step by step calculations please. 2. Now calculate the index numbers if the base year changes to 2001. 3. If the index is 95.918 in 2006, calculate the sales of base year. 4. If the index is 140 in 2007, calculate the sales of base year. 5. If the index is 84.78 in 2005, calculate the sales of base year. | **ANSWERS**  1 a) 2004 as the base year  2000; = 72.92 2001; = 66.67  2002; = 85.42 2003; = 95.83  2004; = 100 2005; = 81.25  2006; = 97.92 2007; = 102.08  b) 2001 as the base year  2000; = 109.375 2001; = 100  2002; = 128.125 2003; = 143.75  2004; = 150 2005; = 121.875  2006; = 146.875 2007; = 153.125  c) Sales of the base year =  Sales of 2006 = £4.7 × 1000 = £4700  Sales of the base year = = £4900.02  d) Sales of the base year =  Sales of 2007 = £4.9 × 1000 = £4900  Sales of the base year = = £3500  e) Sales of the base year =  Sales of 2005 = £3.9 × 1000 = £3900  Sales of the base year = = £4600.14 |
| 2 | Following data shows the individual earning of a person from 2014 to 2018   |  |  | | --- | --- | | **Year** | **Individual Earnings (£000)** | | 2014 | 2.8 | | 2015 | 2.9 | | 2016 | 3.5 | | 2017 | 3.1 | | 2018 | 3.8 |  1. Using 2016 as the base year, calculate the index numbers for individual earnings from 2014 to 2018. Make sure to show the calculations. 2. If the base year changes to 2014, calculate the index for the given period of time. 3. If the index is 76.316 in 2015, find the individual earnings of base year. 4. If the index is 122.58 in 2018, calculate the earnings of base year. | 2 a) 2016 as the base year  2014; = 80 2015; = 82.86  2016; = 100 2017; = 88.57  2018; = 108.57  a) 2014 as the base year  2014; = 100 2015; = 103.57  2016; = 125 2017; = 110.71  2018; = 135.71  c) Earnings of base year =  Earnings of 2015 = £2.9 × 1000 = £2900  Earnings of the base year = = £3799.99  d) Earnings of base year =  Earnings of 2018 = £3.8 × 1000 = £3800  Earnings of the base year = = £3100.02 |
| 3 | Following is the price index where base year is 2015   |  |  | | --- | --- | | **Year** | **Price Index 2015 as base year** | | 2014 | 98.2 | | 2015 | 100 | | 2016 | 108.5 | | 2017 | 122.6 | | 2018 | 141.5 |  1. If the base year is shifted to 2017, make the new price index for above data. 2. If the base year is shifted to 2014, create the new price index for new base year. | 3 a) 2017 as the base year  2014; = 80.10 2015; = 81.57  2016; = 88.50 2017; = 100  2018; = 115.42  b) 2014 as the base year  2014; = 100 2015; = 101.83  2016; = 110.49 2017; = 124.85  2018; = 144.09 |