Level 2 Functional Skills - End of Term Assessment 3

Scales, Measure, Percent and Money

- Calculate actual dimensions from scale drawings and create a scale diagram given actual measurements
- Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph
- Work out percentages of amounts and express one amount as a percentage of another
- Calculate percentage change (any size increase and decrease), and original value after percentage change
- Calculate amounts of money, compound interest, percentage increases, decreases and discounts including tax and simple budgeting

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Please check the examination details below before entering your candidate information

Candidate surname	Other names

Pearson Edexcel
Functional Skills

End of Term Assessment 3

Time:	20 minutes then 30 minutes

Mathematics
Level 2

You must have:
Pen, HB pencil, eraser, ruler graduated in cm and mm, protractor, pair of compasses. Tracing paper may be used.

Total Marks
43

1) The **model** car is 36cm long. Use the scale and find the cars **actual** length in metres.

100cm = 1m (2)

1 : 5

1) Use the scale 1:5 to make 36cm x5 = 180cm ✓
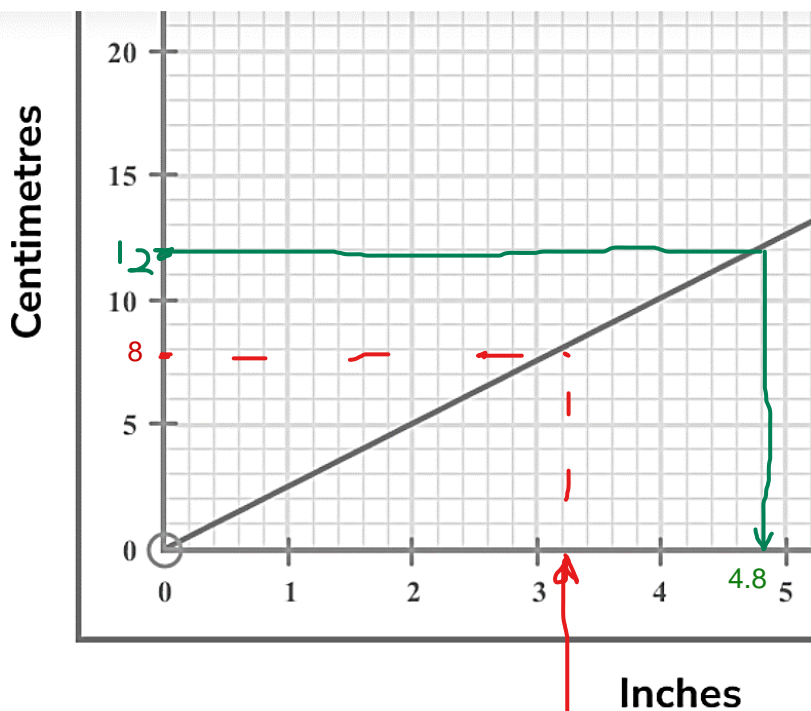
2) Convert 180cm to 1.8m ✓

Answer = 1.8m

2) a) Use the conversion graph to change 12 cm to inches. (1)

Answer = 4.8 inches ✓

0.2 in per line

Inches

b) Use the conversion graph to change 3.2 inches to cm. (1)

Answer = 8 cm ✓

3)   Write £3 as a percentage of £2.50   (3)

1) £3 is part of £2.50 ..... so   £3.00 Part

                                         £2.50 Whole ✓

2) 3/2.5 = 1.2 ✓

3) 1.2 = 120% ✓ | Answer = 120% |

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4) Sam's swimming practice is shown below.

Tuesday	35 laps	42mins 21sec	700m
Wednesday	30 laps	41mins 37sec	600m
Thursday	40 laps	52mins 19sec	800m

a) Sam wants to increase his laps by 5% on Friday compared to Thursday. Find his new laps for Friday.   (2)

✓ 1) +5% to 40 laps, any method
ie.. 40 x 1.05 =
or 40/100 = 0.4 then 0.4 x 5= 2
then 40 + 2 = | Answer = 42 laps |

✓ 2) 42

b) Sam's distance on Tuesday is 20% higher than on Monday. Select the sum that will show Mondays distance swam in km   (1)

(700 / 20) x 100   (700 / 6) x 5   (20 x 700) / 100   (700 / 1.2) / 1000 ✓

5) A house price is increases by 15% over 3 years with **simple** interest.

2020	£200,000
2021	_____
2022	_____

1) Any method to add 15%
ie ... 200,000 x 1.15
or 200,000/100 x 15 then add on the answer
or 200,000 / 10 to find 10%
then divide by 2 to find 5% and add for 15%

2) Find that 15% is £30,000

a) Find how much the house is worth for both 2021 and 2022. (3)

3) Answers =

2021	£ 230,000
2022	£ 260,000

b) Find the final house price in 2022 as a percentage of 2020 (2)

1) 260,000 Part
200,000 Whole

So...Method 260,000 / 200,000 =

2) 1.3 = 130%

Answer = 130%

Calculator Section

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1) A coastline is shown below. Find the map distance, in cm to 1dp, from town A to B if the two towns are actually 96.3miles apart. 1mile=1.67km

0   1cm

0   km   5

B

A

Not drawn accurately

1) 96.3 miles x 1.67 km per mile =

2) 160.821 km

3) 160.821 km / 5 km per cm =
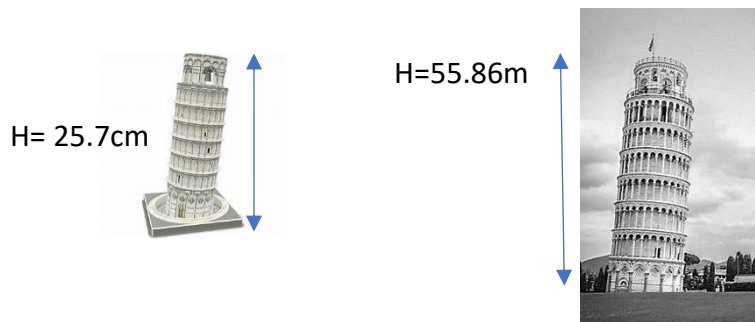
4) 32.1642 cm, rounded to 1dp = 32.2 cm

(4)

Answer = 32.2 cm

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2) A model of a famous landmark and the landmark itself are shown below. The heights of the model and the actual landmark are also shown.

Tim thinks the actual tower is over 200 times larger than his model. Show if Tim is correct.

H= 25.7cm

H=55.86m

1) 55.86 m = 5,586 cm   Ready to compare like for like measure units

or 25.7 cm = 0.257 m

2) Divide Real by model to compare   or 200 x 0.257 = 51.4m

so, either 5586 / 25.7 =

or 55.86 / 0.257 =

(3)

3) Answer = 217.35 times larger so YES

3) Janine wants to work out her budget for the month. She has the information below.

Rent	£620.80
Water/gas/electric	£247.60
Council Tax	20% x Rent
Food/Transport	4 weeks x £90

Wage this month £1627.19

Find her left over money after expenses **as a percentage** of her wage this month.

1) Council Tax = 620.8 x 0.2 or any other method = £124.16

2) Food/Trans = 4 x £90 = £360

3) Total expenses = 620.8 + 247.6 + 124.16 (or your answer) + 360 (or your answer)
showing adding the 4 values even if wrong values from parts 1 and 2

4) Total expenses answer = £1352.56 (must be this value)

5) 1627.19 - 1352.56 = £274.63

6) 274.63 / 1627.19 = 0.168 = 17% (must be correct answer only)   (6)

Answer = 17%

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4) Convert   0.047 Litres to fl ozs using full accuracy. Do not round your final answer.

1ml = 0.0338 fl ozs

1)   0.047 L converted to Millilitres = 47 ml

2) Method 47 ml x 0.0338 =   (3)

3) 1.5886 fl ozs

Answer = 1.5886 fl ozs

5) An Estate agent finds house price changes for their website.

A

B

a) For house A   Find..   5/7 of £420,000

1) Method 420,000 / 7 then x 5 =

2) 300,000

(2)

Answer = £300,000

b) For house B   Find..   2/3 of £390,000

1) Method 390,000 / 3   then x 2 =

(2)

2) 260,000

Answer = £260,000

c) To compare these two new houses prices, the estate agent finds house A as a fraction of house B (using the prices you found in parts a) and b)). Complete this comparison calculation and write your answer in its simplest terms using a mixed number if required.

1) Write the fraction   300,000 Part   or, using your own values from parts a) and b)
                          260,000 Whole

2) Simplify the fraction 300,000 / 260,000 = 300/260 = 30/26 = 15/13

3) Write mixed number   1 and 2/13

(3)

Answer = 1 2/13

6) Multiply 0.4328 x 1.6029   writing your answer to three decimal places.

(2)

Answer = 0.694

7) Complete the sum shown using a calculator.

$$1\frac{1}{2} \quad \text{divided by} \quad 2\frac{2}{3}$$

(1)

1) Use calculator fraction buttons
or any other calculator method
by converting

Answer = 9/16 or 0.5625

8) The number of fruit pickers is inversely proportional to the amount of time taken to pick fruit. A greenhouse employs 18 pickers which take 36 hours to complete a job. Find the time taken when the greenhouse employs 12 pickers.

1) 18 pickers x 36 hrs = 648

2) 648 / 12 = 54

or

1) 12/18 = 0.66 or 2/3

2) 3/2 x 36 hrs = 54

(2)

Answer = 54 hours