Level 2 Functional Skills - End of Term Assessment 2

Fractions, Formulae, Ratio and Proportion and Decimals

- Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers
- Express one number as a fraction of another
- Evaluate expressions and make substitutions in given formulae in words and symbols
- Understand and calculate using ratios, direct proportion and inverse proportion
- Order, approximate and compare decimals
- Add, subtract, multiply and divide decimals up to three decimal places

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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 **2**

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.

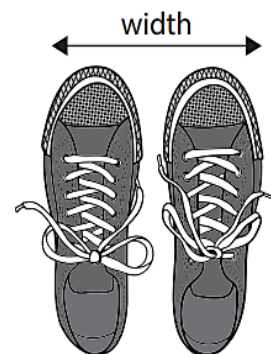Total Marks
41

1) Find $\dfrac{7}{9} - \dfrac{5}{6}$ (3)

$\dfrac{7\times6 - 5\times9}{9\times6 \quad 6\times9}$ ✓ $= \dfrac{42 - 45}{54}$ ✓

-3 / 54   or   -1/18 ✓

Uditi wants to make a shoe tray.
The tray will hold rows of shoes.
She wants each row to hold 6 pairs of shoes.

Uditi measures the width of 5 pairs of her shoes.
Here are the results in cm.

18.2   19.7   19.4   18.6   18.9

width

2) a) Find the ratio between the largest and smallest shoe pair. (3)

Write your answer in its simplest form.

19.4 largest   or   18.2 smallest ✓

19.7 : 18.2 ✓

19.7 : 18.2   or   197 : 182

b) Total the widths of pairs of shoes to find the width of the shoe tray. Show if this is over one metre in length   100cm = 1m (3)

18.2 + 19.7 + 19.4 + 18.6 + 18.9 = 94.8 cm ✓

No.. because 94.8 < 100 cm ✓

3)   Replace y with 2 and t with 4   then complete the formula   (3)

$$6y + t - 4 (10 - yt)$$

6 (2) + 4 - 4(10 - (2)(4))

12 + 4 - 4 (10 - 8)

8

4) Order, highest first, the following values.

$$\frac{8}{5} \qquad 0.85 \qquad 1\frac{5}{8}$$

You must show your workings.   (3)

8/5 = 1.60

0.85 = 0.85

1 5/8 = 1.625

order is ..highest 1.625 then 1.60 then lowest 0.85

so.....

1 5/8   then 8/5   then 0.85

Calculator Section

1) Susie wants to make a dress.

To make the dress she needs a piece of fabric with a length of $1\frac{2}{3}$ yards. Fabric is sold in lengths measured in cm.

1 inch = 2.54 cm
1 yard = 36 inches

Work out the length of fabric, in cm, Susie needs to make the dress.
You **must** show your working.

(3)

1 2/3 x 36 inches = 36+24 = 60 inches ✓

60 in x 2.54cm = 152.4 cm

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2) Jim wants to paint his living room. He mixes two colours and thinner in the ratio:

Red: Yellow: thinner

20 : 15 : 7

(3)

He has 300ml of thinner. What is the maximum amount of paint he can make? Write your answer to 2dps.

20 + 15 + 7 = 42 parts ✓

300ml / 7ml = 42.86 ✓

42ml x 42.86 = 1800.12ml

1800.12ml or about 1.8 Litres ✓

3) Here is a formula.

$$\frac{8.72\,a}{5t + a^2} = b$$

Find the value of b when $a = 8$ and $t = 3.5$
Give your answer correct to 3 decimal places. (5)

$$\frac{8.72 \times 8}{5 \times 3.5 + 8 \times 8}$$ ✓

$$= \frac{69.76}{81.5}$$ ✓

$$\frac{69.76}{17.5 + 64}$$ ✓

$= 0.85595...$ so 0.856 to 3dps ✓

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4) Race results are shown below showing the total time to complete the race for the top five competitors.

Jane   23.849 mins

Ranit   21.064 mins

Steve   22.553 mins

Sheena   20.110 mins

Tim   24.989 mins

(3)

Find the ratio of competitors than ran slower than 0.36hrs to those that took longer.

0.36 hrs x 60 mins = 21.6 minutes ✓

Jane, Steve and Tim are over 21.6 minutes so are slower. ✓

3 : 2 ✓

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

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

420,000 / 7 = 60,000 ✓

60,000 x 5 =

£300,000 ✓

(2)

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

£390,000 / 3 = 130,000 ✓

130,000 x 2 =

(2)

£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.

house A = 300,000

house B = 260,000

so... A as fractions of B = 300,000

                           260,000 ✓

= 30/26 = 15/13 ✓

(3)

= 1 and 2/13 ✓

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

0.4328 x 1.6029 = 0.69373512

(2)

rounds to 0.694 to 3dps

7) Complete the sum on a calculator

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

(1)

1 1/2   x   3/8   = 3/2 x 3/8 =

= 9 / 16

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.

18 x 36 = 648 pickers/hours

12 x ?? = 648 pickers/hours

either 18/12 x 36 = 54

or 648 / 12 = 54

(2)

54 hours