

Functional Skills

E3-Mathematics

**Diagnostic
Assessment**

Mathematics
Diagnostic Assessment Entry Level 3

SECTION ONE

1

(i) Place in order of value. Start with the lowest number.

72 29 26 79

.....

(ii) Place in order of value. Start with the lowest number.

472 440 432 443

.....

(iii) Place in order of value. Start with the highest number.

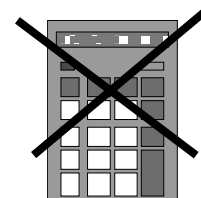
21 12 92 32 48

.....

Total: 3

2 What is the answer? Do not use a calculator.

+



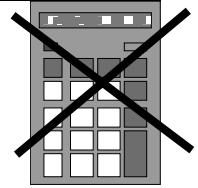
(i)
$$\begin{array}{r} 224 \\ + 113 \\ \hline \end{array}$$

(ii)
$$\begin{array}{r} 341 \\ + 252 \\ \hline \end{array}$$

(iii)
$$\begin{array}{r} 410 \\ + 391 \\ \hline \end{array}$$

Total : 3

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3 What is the answer. Do not use a calculator.

(i)
$$\begin{array}{r} 442 \\ - 311 \\ \hline \end{array}$$

(ii)
$$\begin{array}{r} 385 \\ - 215 \\ \hline \end{array}$$

(iii)
$$\begin{array}{r} 570 \\ - 328 \\ \hline \end{array}$$

Total : 3

4 Complete the sums. Do not use a calculator.

(i) $5 + \square = 10$

(ii) $17 + \square = 20$

(iii) $\square + 11 = 18$

Total : 3

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5 Complete the sums. Do not use a calculator.

(i) $14 - \square = 7$

(ii) $\square - 2 = 13$

(iii) $20 - \square = 12$

Total : 3

6 Circle the correct answer. Do not use a calculator.

X

(i)
$$\begin{array}{r} 45 \\ \times 4 \\ \hline \end{array}$$

a) 160 b) 126 c) 180

(ii)
$$\begin{array}{r} 36 \\ \times 3 \\ \hline \end{array}$$

a) 98 b) 108 c) 918

(iii)
$$\begin{array}{r} 65 \\ \times 6 \\ \hline \end{array}$$

a) 336 b) 360 c) 390

Total : 3

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7 Complete the sums. Do not use a calculator.

(i) $\square \times 2 = 16$

(ii) $3 \times \square = 18$

(iii) $10 \times \square = 50$

Total : 3

8 Circle the correct answer. Do not use a calculator.



(i)

$$4 \overline{)44}$$

a) 10

b) 11

c) 12

(ii)

$$3 \overline{)62}$$

a) 2 r2

b) 20

c) 20 r2

(iii)

$$5 \overline{)37}$$

a) 6 r23

b) 7 r2

c) 61 r2

Total : 3

9 The shop sold 914 cans of cola in July.

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(i) Round this figure to the nearest 10. Circle your answer.

- a) 910 b) 920 c) 900 d) 915

The shop sold 855 cans of cola in August. Circle your answer.

(ii) Round this figure to the nearest 100.

- a) 860 b) 800 c) 900 d) 1000

(iii) What is the value of the underlined figure?
Circle your answer.

938

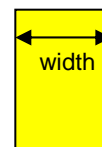
- a) 300 b) 3 c) 30 d) 3000

Total : 3

10 (i) Estimate how much money you would need to be able to buy eighteen stamps costing 19p each? Circle your answer.

- a) £4.00 b) £3.50 c) £4.50 d) £5.00

(ii) Estimate the width of an actual Yellow Pages telephone directory. Circle your answer.



- a) 10 cm b) 60 cm c) 20 cm d) 5 cm

(iii) Estimate the cost of 5 plants at £2.97 each. Circle your answer.

- a) £10.00 b) £12.50 c) £15.00 d) £20.00

Total : 3

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11 Chose the correct symbol. e.g. To add 14 to 3 you would use + .

(i) 17 **subtract** 6

a) + b) - c) x d) ÷ e) =

(ii) 7 **and** 11

a) + b) - c) x d) ÷ e) =

(iii) 6 **times** 5

a) + b) - c) x d) ÷ e) =

(iv) 7 **plus** 9

a) + b) - c) x d) ÷ e) =

(v) 9 chocolates **shared between** 3

a) + b) - c) x d) ÷ e) =

Total : 5

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12

Match the fractions
"The dark area is the
same as...."

Circle the correct
fraction

e.g.



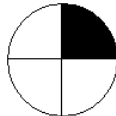
is the same as

$\frac{1}{4}$

$\frac{1}{2}$

$\frac{3}{4}$

(i)



is the same as

a)

b)

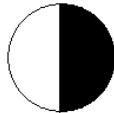
c)

$\frac{1}{4}$

$\frac{1}{2}$

$\frac{3}{4}$

(ii)



is the same as

a)

b)

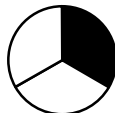
c)

$\frac{1}{4}$

$\frac{1}{2}$

$\frac{3}{4}$

(iii)



is the same as

a)

b)

c)

$\frac{1}{4}$

$\frac{1}{2}$

$\frac{1}{3}$

Total : 3

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13 Find the missing number and circle your answer.

e.g. $\frac{2}{8} = \frac{?}{4}$

a) 1

b) 3

c) 6

d) 8

(i) $\frac{3}{4} = \frac{?}{12}$

a) 8

b) 9

c) 3

d) 4

(ii) $\frac{1}{2} = \frac{5}{?}$

a) 5

b) 15

c) 10

d) 20

(iii) $1 = \frac{?}{6}$

a) 1

b) 3

c) 6

d) 7

Total : 3

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14 You are checking the shopping till receipt.

What is the amount shown in words.

Tick the correct values :

tick

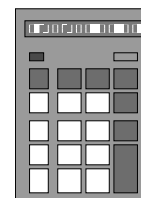
- | | | | |
|-------|-----------------|---------------------------------|--------------------------|
| (i) | $\pounds 10.02$ | a) Ten pounds and twenty pence | <input type="checkbox"/> |
| | | b) One pound and twenty pence | <input type="checkbox"/> |
| | | c) Ten pounds and two pence | <input type="checkbox"/> |
| (ii) | $\pounds 4.90$ | a) Four pounds and ninety pence | <input type="checkbox"/> |
| | | b) Forty nine pounds | <input type="checkbox"/> |
| | | c) Four pounds and nine pence | <input type="checkbox"/> |
| (iii) | $\pounds 0.09$ | a) Nine pounds | <input type="checkbox"/> |
| | | b) Ninety pence | <input type="checkbox"/> |
| | | c) Nine pence | <input type="checkbox"/> |

Total : 3

15 Use a calculator to check the following sums.

Circle the tick or cross to show whether the answer is right or wrong.

- | | | | |
|------|---|-----------------|-------------|
| i) | $70p + \pounds 3.20 = \pounds 3.90$ | a) \checkmark | b) \times |
| ii) | $\pounds 10 \div 3 = \pounds 3.33$ | a) \checkmark | b) \times |
| iii) | $\pounds 92.05 \times 4 = \pounds 368.02$ | a) \checkmark | b) \times |



\checkmark

Total : 3

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SECTION TWO

16

(i) What is the correct layout for this sum? Circle your answer.

Add £1.50 to £3

a)
$$\begin{array}{r} 3.00 \\ + 1.50 \\ \hline \end{array}$$

b)
$$\begin{array}{r} 1.5 \\ + 3 \\ \hline \end{array}$$

c)
$$\begin{array}{r} 3 \\ + 1.50 \\ \hline \end{array}$$

(ii) What is the correct layout for this sum? Circle your answer.

Add 25p to £7

a)
$$\begin{array}{r} 7 \\ + 25 \\ \hline \end{array}$$

b)
$$\begin{array}{r} 7.00 \\ + 0.25 \\ \hline \end{array}$$

c)
$$\begin{array}{r} 7 \\ + 0.25 \\ \hline \end{array}$$

(iii) What is the correct layout for this sum? Circle your answer.

Add £8.04 to £2.60

a)
$$\begin{array}{r} 2.60 \\ + 8.04 \\ \hline \end{array}$$

b)
$$\begin{array}{r} 2.6 \\ + 8.04 \\ \hline \end{array}$$

c)
$$\begin{array}{r} 2.6 \\ + 8.4 \\ \hline \end{array}$$

Total : 3

17

(i) What is the correct layout for this sum? Circle your answer.

Take £2.11 from £2.22

a)
$$\begin{array}{r} 2.11 \\ - 2.22 \\ \hline \end{array}$$

b)
$$\begin{array}{r} 2.22 \\ - 2.11 \\ \hline \end{array}$$

c)
$$\begin{array}{r} 2.22 \\ + 2.11 \\ \hline \end{array}$$

(ii) What is the correct layout for this sum? Circle your answer.

Take 60 pence from £1.60

a)
$$\begin{array}{r} 1.60 \\ - 60 \\ \hline \end{array}$$

b)
$$\begin{array}{r} 1.60 \\ - 0.60 \\ \hline \end{array}$$

c)
$$\begin{array}{r} 60 \\ - 1.60 \\ \hline \end{array}$$

(iii) What is the correct layout for this sum? Circle your answer.

Take £1.40 from £2.

a)
$$\begin{array}{r} 1.40 \\ - 2 \\ \hline \end{array}$$

b)
$$\begin{array}{r} 1.40 \\ - 2.00 \\ \hline \end{array}$$

c)
$$\begin{array}{r} 2.00 \\ - 1.40 \\ \hline \end{array}$$

Total : 3

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18 Your shopping bill comes to £27.72



(i) Round up or down to the nearest ten pence.
Circle your answer.

- a) £27.70 b) £27.80 c) £28.00

(ii) Round up or down to the nearest whole pound.
Circle your answer.

- a) £27 b) £28 c) £30

(iii) £3.92 is approximately which of the following? Circle your answer.

- a) £3 b) £4 c) £5

Total : 3

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19a What time is it? Circle your answers.

(i)



- a) 6.10 pm b) 2.30 pm c) 2.20 pm

(ii)



- a) 4.10 am b) 2.30 am c) 2.20 am

(iii)



- a) 12.35 am b) 11.35 am c) 7.55 am

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19b What time is it on the digital display? Circle your answers.

(i)

- a) Twenty past four b) Twenty to five c) Four o'clock

(ii)

- a) Quarter to twelve b) Quarter to eleven c) Five to twelve

(iii) Which digital display shows 'quarter to eight'?

a)

b)

c)

Total : 6

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- 20** (i) Your favourite TV programme starts at 8.40 pm and finishes at 9.15 pm. How long does it last? Circle your answer.
- a) 25 minutes b) 35 minutes c) 1 hour 25 minutes
- (ii) A ready-meal takes 1 hour 15 minutes to cook. If you put it in the oven at 11.45 am, what time will it be ready? Circle your answer.
- a) 1.00 pm b) 1.10 am c) 10.30 am
- (iii) Your bus journey from town takes 45 minutes and you arrive at your stop at 8.25. What time did you leave town? Circle your answer.
- a) 9.10 b) 7.40 c) 7.20

Total : 3

- 21** (i) Today I drove 50 miles. In France this would be shown as approximately:
- a) 80 metres b) 80 kilometres c) 80 millimetres
- (ii) It takes me $\frac{1}{2}$ hour to walk:
- a) 1 mile b) 5 miles c) 10 miles
- (iii) The nearest city is 13 miles away. Keeping to the speed limit of 30 miles per hour, I can drive there in approximately:
- a) 10 minutes b) 30 minutes c) 13 minutes

Total : 3

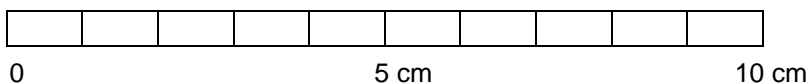
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22

x) _____

y) _____

CM RULE



Use the rule shown.

(i) What is the length of line x? _____ cm

(ii) Line y is longer than line x. By how many centimetres?
_____ cm

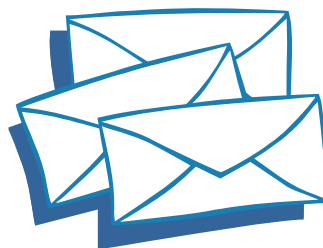
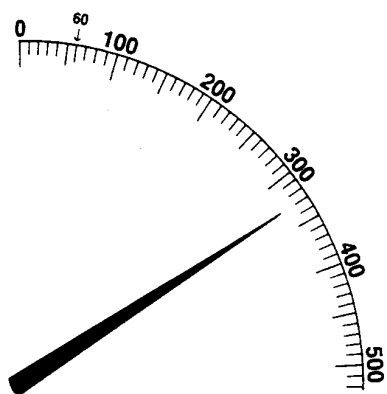
(iii) What is the length of line y in millimetres?
_____ mm

(iv) A door is 1.23 metres wide. How many millimetres is this?
_____ mm

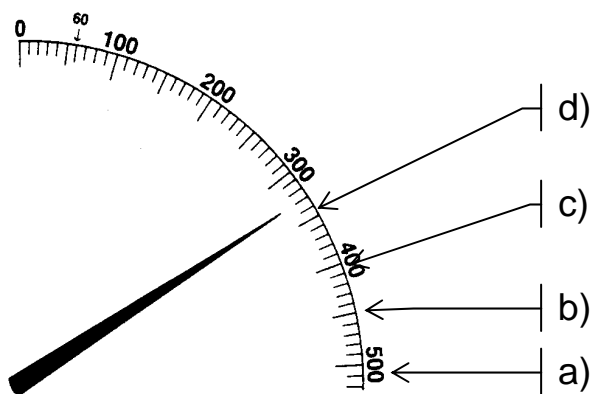
Total : 4

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- 23 This scale is used for weighing letters.
It is in grams.



- (i) How much does the letter weigh? Circle your answer.
- a) 350 g b) 400 g c) 300 g d) 330 g
- (ii) A letter weighs **450 grams**.
Circle the letter that points to 450g on the scale.

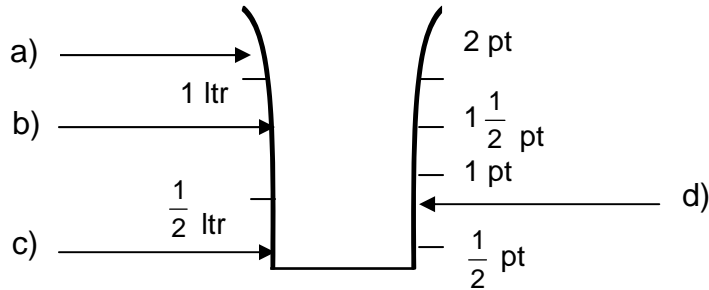


- (iii) Estimate the weight of a bag of sugar. Circle your answer.
- a) 0.1 kg b) 7.5 kg c) 25 kg d) 1 kg

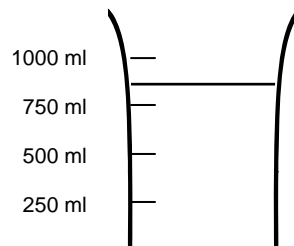
Total : 3

Mathematics
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- 24 (i) A recipe needs 900 ml ($1\frac{1}{2}$ pints) brown stock. Circle the letter which shows the amount of stock required?



- (ii) How much liquid is in the jug?



- a) 1.5 ltr b) 0.85 ltr c) 0.5 ltr

- (iii) A 1.5 litre bottle of lemonade is equivalent to which of the following? Circle your answer.

- a) 1250 ml b) 1500 ml c) 150 ml

Total : 3

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25 You have been given different units of measurement.

gram (g)

kilogram (kg)

millilitre (ml)

litre (l)

tonne (t)

metre (m)

Which unit of measurement would you choose to measure each of the following? Circle your answer.

(i) A small bag of sweets.

a) gram (g)

b) kilogram (kg) c) millilitre (ml)

(ii) Your height.

a) kilogram (kg)

b) gram (g)

c) metre (m)

(iii) Your weight.

a) litre (l)

b) metre (m)

c) kilogram (kg)

(iv) A lorry load of sand.

a) litre (l)

b) tonne (t)

c) metre (m)

(v) Cough mixture.

a) litre (l)

b) millilitre (ml)

c) gram (g)

(vi) Petrol.

a) litre (l)

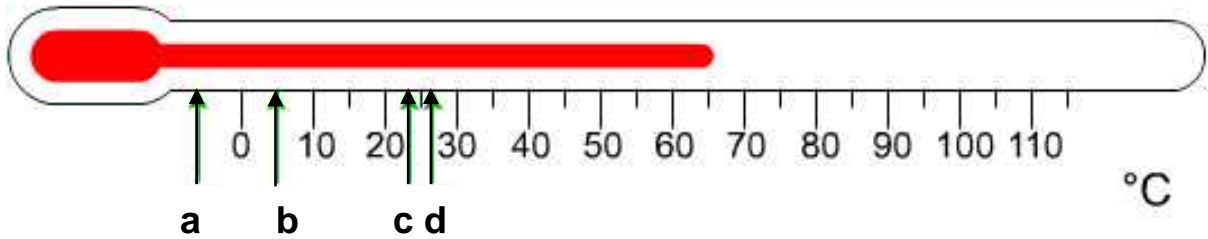
b) millilitre (ml)

c) gram (g)

Total : 6

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- 26** The temperature dropped to 5 °C in February and rose to 26 °C in August.



- (i) Which letter marks the correct temperature for February?

.....

- (ii) Which letter marks the correct temperature for August?

.....

- (iii) What is the difference between these two temperatures?

.....°C

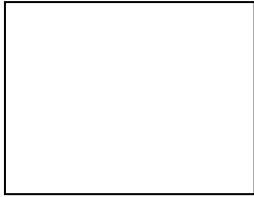
Total : 3

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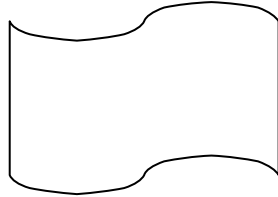
SECTION THREE

27 (i) Tick ✓ the shape which does not have a line of symmetry.

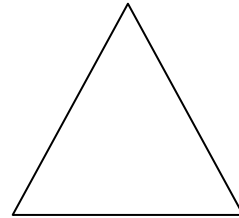
a)



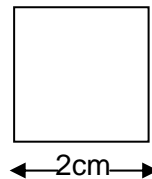
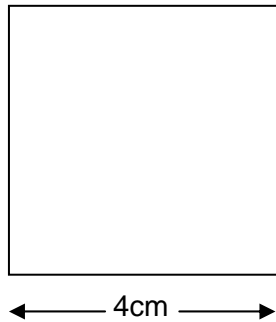
b)



c)



(ii) How many small boxes will fit into the big one?
Circle your answer.



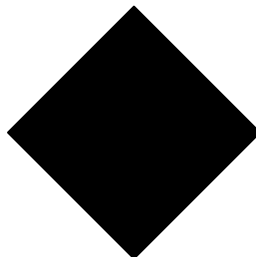
a) 3

b) 2

c) 4

d) 1

(iii) How many right angles are there in this shape?
Circle your answer.



a) 4

b) 0

c) 2

d) 8

Total : 3

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28

Month	Maximum (highest) temperature
January	10 °C
June	20 °C
August	25 °C
October	15 °C
December	10 °C

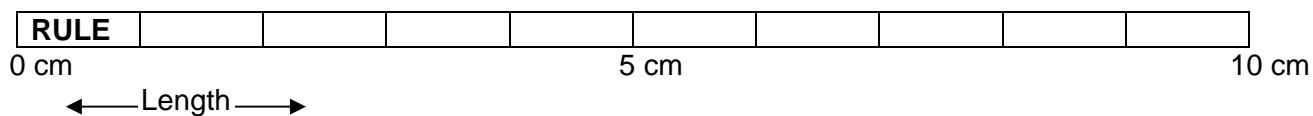
(i) In which month does the temperature reach a maximum of 15 °C? Circle your answer.

a) January b) June c) October d) December

(ii) Which is the hottest month? Circle your answer.

a) June b) October c) August

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Scale 1 cm : 5 metres

Using the rule shown:

(iii) What is the approximate length of the shoe shop? Circle your answer.

- a) 30 m b) 50 m c) 10 m d) 60 m

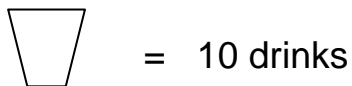
(iv) What is the approximate length of the inside of the shopping precinct? Circle your answer.

- a) 30 m b) 50 m c) 40 m d) 60 m

Total : 4

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- 29** The pictogram below shows how many drinks are sold from a drinks machine.



Monday



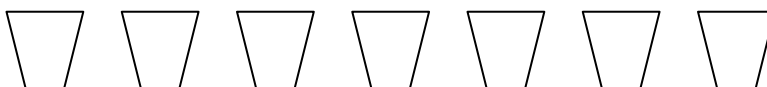
Tuesday



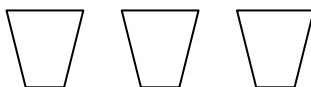
Wednesday



Thursday



Friday



Use this pictogram to answer the questions below:

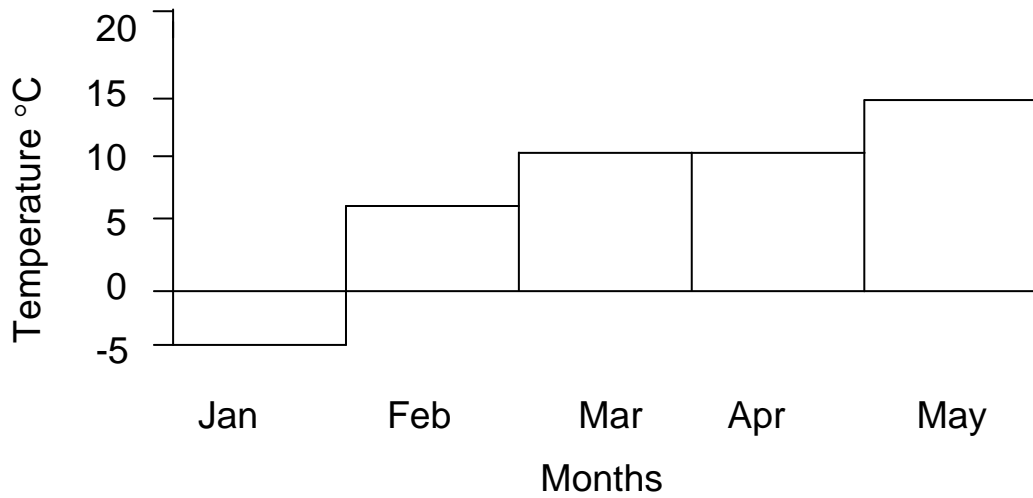
- (i) How many drinks are sold on a Tuesday?
Circle your answer.

a) 50 b) 60 c) 5 d) 6

- (iii) On one day 30 drinks are sold. Which day is it?
Circle your answer.

a) Tuesday b) Monday c) Wednesday d) Friday

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Using the bar chart:

(iii) What is the temperature difference between April and May?

- a) 5 °C b) 10 °C c) 15 °C d) 25 °C

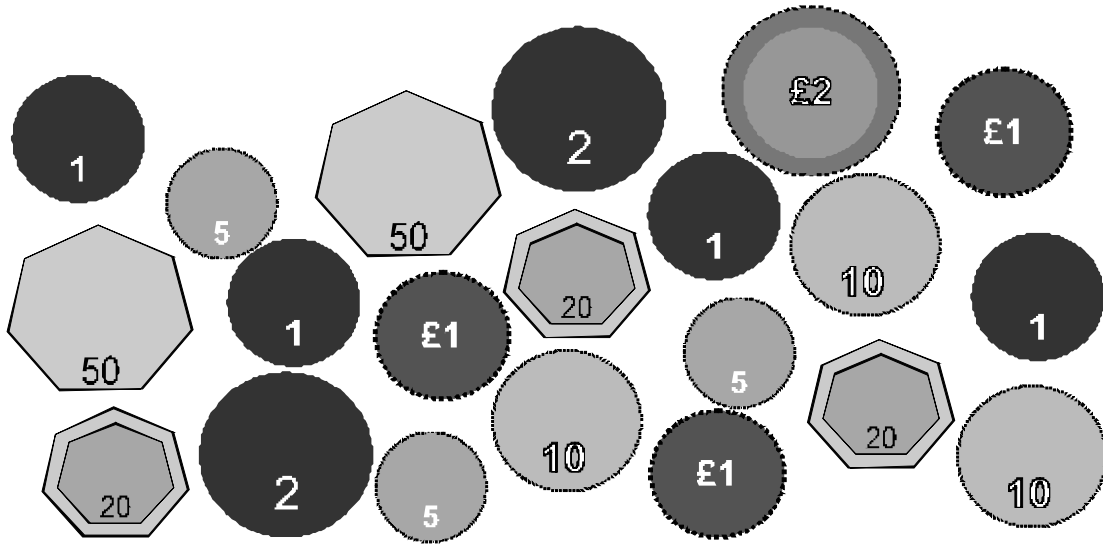
(iv) Which is the coldest month?

- a) Jan b) Mar c) April d) May

Total : 4

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30



Complete the tally chart by filling in the boxes marked (i), (ii), (iii), (iv) with either the correct tally or frequency, as appropriate.

Use a tally for each coin.

Coins	Number of Coins	
	Tally	Frequency
e.g. 1p	IIII	4
e.g. 2p	II	2
5p	(i)	(ii)
e.g. 10p	III	3
20p	(iii)	(iv)
e.g. 50p	II	2
e.g. £1.00	III	3
e.g. £2.00	I	1

Total : 4

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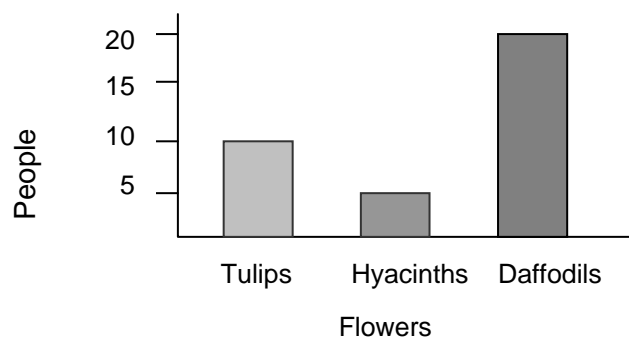
31 Out of 35 people, 10 planted tulips, 20 planted daffodils and just 5 planted hyacinths.

(i) Which chart shows these findings? Circle your answer.

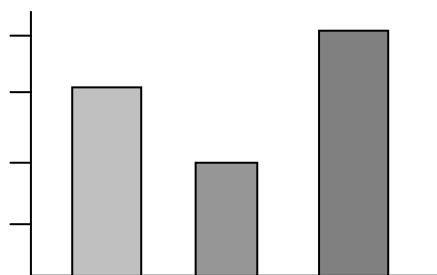
a)



b)



c)



(ii) What would be a more sensible title for the x axis? Circle your answer.

a) No. of flowers b) No. of people c) Types of flowers

(iii) When drawing a pictogram, one apple was used to represent 15 apples. How many apples would you need to draw to represent 60 apples? Circle your answer.

a) 6 b) 4 c) 3 d) 5

Total : 3