E3-Mathematics

**Diagnostic
Assessment**

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.
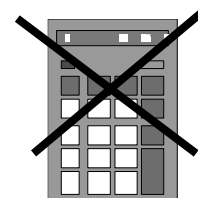
+

(i)   224
        + 113

(ii)   341
        + 252

(iii)   410
        + 391

Total : 3

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

–

(i)   442
      - 311

(ii)   385
       - 215

(iii)   570
        - 328
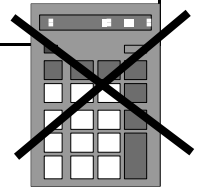
Total : 3

4   Complete the sums. Do not use a calculator.

(i)   5   +   ☐   =   10

(ii)   17   +   ☐   =   20

(iii)   ☐   +   11   =   18

Total : 3

5   Complete the sums. Do not use a calculator.

(i)   14   -   ☐   =   7

(ii)   ☐   -   2   =   13

(iii)   20   -   ☐   =   12

Total : 3   ☐

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

X

(i)   45
                x 4

                        a) 160   b) 126   c) 180

(ii)   36
                x 3

                        a) 98   b) 108   c) 918

(iii)   65
                x 6

                        a) 336   b) 360   c) 390

Total : 3   ☐

7   Complete the sums. Do not use a calculator.

(i)   ☐   X   2   =   16

(ii)   3   X   ☐   =   18

(iii)   10   X   ☐   =   50

Total : 3 ☐

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

$$\div$$

(i)

4 | 44

              a) 10   b) 11   c) 12

(ii)

3 | 62

              a) 2 r2   b) 20   c) 20 r2

(iii)

5 | 37

              a) 6 r23   b) 7 r2   c) 61 r2

Total : 3 ☐

9   The shop sold 914 cans of cola in July.

(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

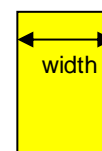(iii)   What is the value of the underlined figure?
Circle your answer.

9<u>3</u>8

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.

width

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

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

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

        Circle the correct
        fraction

e.g.   is the same as $\frac{1}{4}$ $\frac{1}{2}$ $\boxed{\frac{3}{4}}$

(i)   is the same as

a)   b)   c)
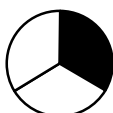$\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$

(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

13   Find the missing number and circle your answer.

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

(a) 1   b) 3   c) 6   d) 8

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

a) 8   b) 9   c) 3   d) 4

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

a) 5   b) 15   c) 10   d) 20

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

a) 1   b) 3   c) 6   d) 7

Total : 3

14 You are checking the shopping till receipt.

What is the amount shown in words.

Tick the correct values :   tick

(i) | £10.02 | a) Ten pounds and twenty pence   ☐

b) One pound and twenty pence   ☐

c) Ten pounds and two pence   ☐

(ii) | £4.90 | a) Four pounds and ninety pence   ☐

b) Forty nine pounds   ☐

c) Four pounds and nine pence   ☐

(iii) | £0.09 | a) Nine pounds   ☐

b) Ninety pence   ☐

c) Nine pence   ☐

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 + £3.20 = £3.90   a) **√**   b) **x**   √

ii)   £10 ÷ 3 = £3.33   a) **√**   b) **x**

iii) £92.05 x 4 = £368.02   a) **√**   b) **x**
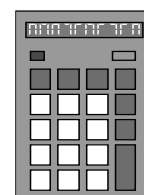
Total : 3 ☐

SECTION TWO

16

(i) What is the correct layout for this sum? Circle your answer.
Add £1.50 to £3

a)   3.00
      + 1.50

b)   1.5
      + 3

c)   3
      + 1.50

(ii) What is the correct layout for this sum? Circle your answer.
Add 25p to £7

a)   7
      + 25

b)   7.00
      + 0.25

c)   7
      + 0.25

(iii) What is the correct layout for this sum? Circle your answer.
Add £8.04 to £2.60

a)   2.60
      + 8.04

b)   2.6
      + 8.04

c)   2.6
      + 8.4

Total : 3

17

(i) What is the correct layout for this sum? Circle your answer.
Take £2.11 from £2.22

a)   2.11
      - 2.22

b)   2.22
      - 2.11

c)   2.22
      + 2.11

(ii) What is the correct layout for this sum? Circle your answer.
Take 60 pence from £1.60

a)   1.60
      -   60

b)   1.60
      - 0.60

c)   60
      - 1.60

(iii) What is the correct layout for this sum? Circle your answer.
Take £1.40 from £2.

a)   1.40
      -   2

b)   1.40
      - 2.00

c)   2.00
      - 1.40

Total : 3

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

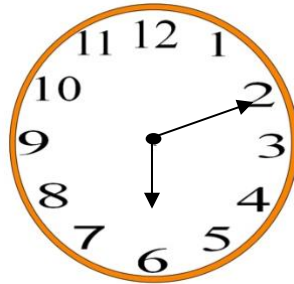   (iii) £3.92 is approximately which of the following? Circle your
         answer.

         a) £3   b) £4   c) £5

                                                    Total : 3
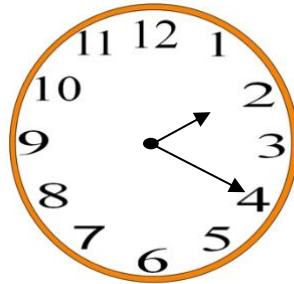
19a What time is it? Circle your answers.

(i)
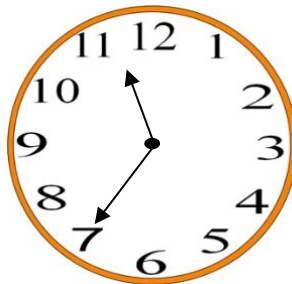

    a) 6.10 pm   b) 2.30 pm   c) 2.20 pm

(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

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

(i)

| 4:40 |

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

(ii)

| 11:45 |

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

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

a)   b)   c)

| 4:45 | | 07:45 | | 7:55 |

Total : 6

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:

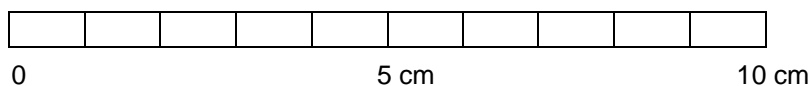a) 10 minutes   b) 30 minutes   c) 13 minutes

Total : 3

22

x) _____

y) _____

CM RULE

0   5 cm   10 cm

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?
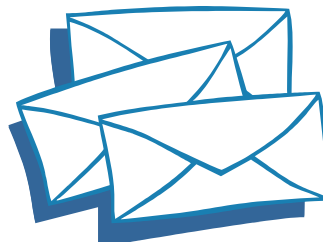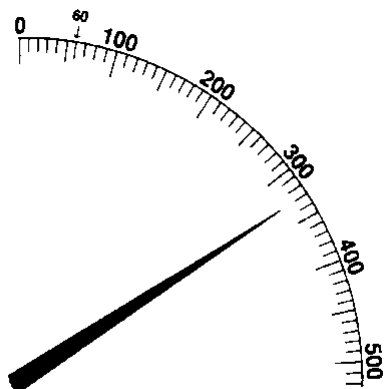
                                                          _____ cm

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

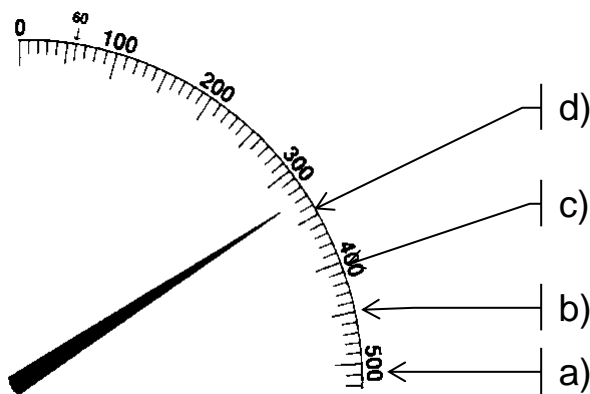   _____ mm

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

                                                          _____ mm

Total : 4

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.**
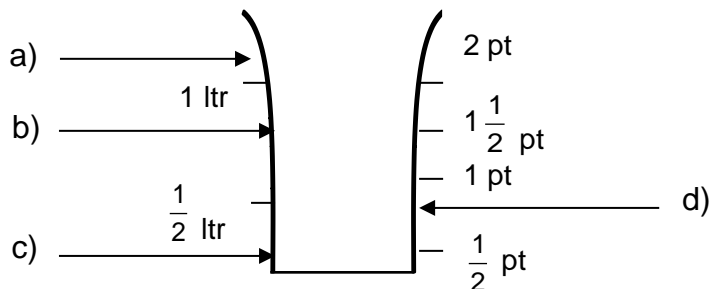Circle the letter that points to 450g on the scale.

(iii) Estimate the weight of a bag of sugar. Circle your answer.

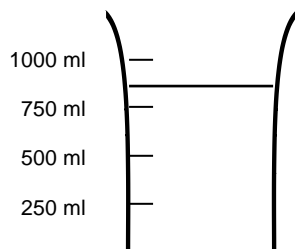a) 0.1 kg   b) 7.5 kg   c) 25 kg   d) 1 kg

Total : 3

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

a) →

b) →

1 ltr

$\frac{1}{2}$ ltr

c) →

2 pt

$1\frac{1}{2}$ pt

1 pt

← d)

$\frac{1}{2}$ pt

(ii)   How much liquid is in the jug?

1000 ml

750 ml

500 ml

250 ml

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

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)
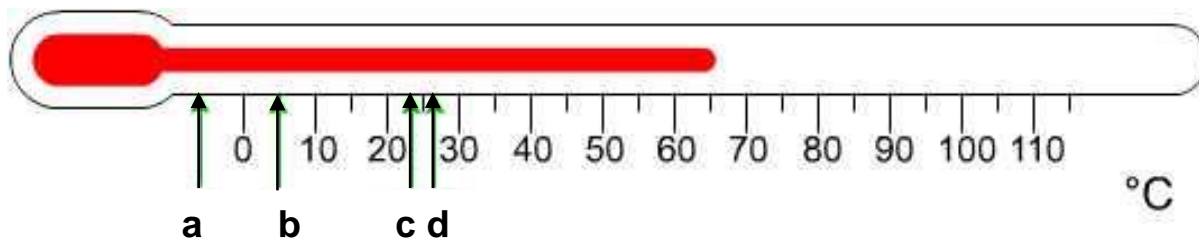
(vi) Petrol.

a) litre (l)   b) millilitre (ml) c) gram (g)

Total : 6

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?
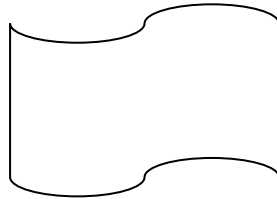
………………………………………………………….………°C

Total : 3

SECTION THREE

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

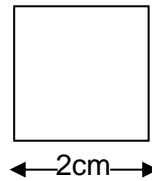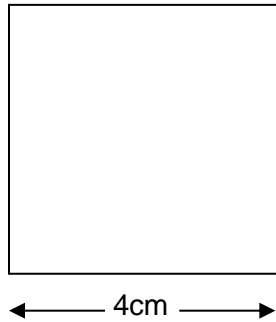a)   b)   c)
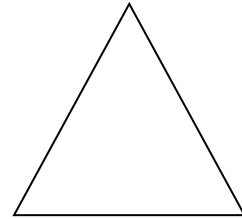
(ii)   How many small boxes will fit into the big one?
Circle your answer.

←— 4cm —→   ←2cm→
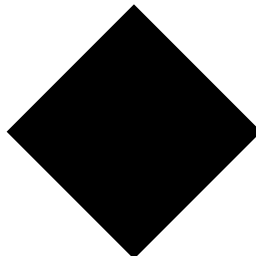
a) 3   b) 2   c) 4   d) 1

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

a) 4   b) 0   c) 2   d) 8

Total : 3

28

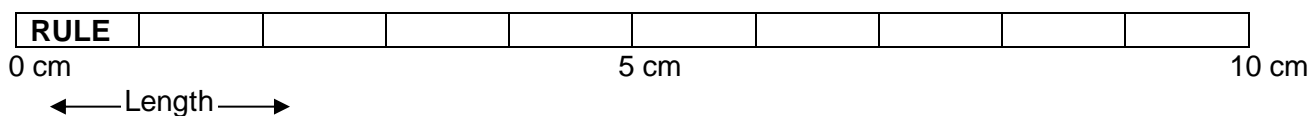| Month	Maximum (highest) temperature
January	10 °C
June	20 °C
August	25 °C
October	15 °C
December	10 °C

(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

Mathematics
Diagnostic Assessment Entry Level 3

Department Store	Coffee Shop	Women's Fashions	Female Toilet	Male Toilet	Toy Shop

Shopping Precinct ←———————→ ———————→

	Menswear	Shoe Shop	Jewellery	Chemist

RULE

0 cm   5 cm   10 cm

←——— Length ———→

Scale 1 cm : 5 metres

Using the rule shown:

(iii)   What is the approximate length of the shoe shop? Circle your answer.
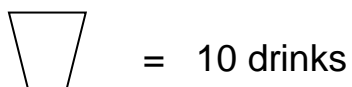
a) 30 m   b) 50 m   c) 10 m   d) 60 m

(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

29 The pictogram below shows how many drinks are sold from a drinks machine.
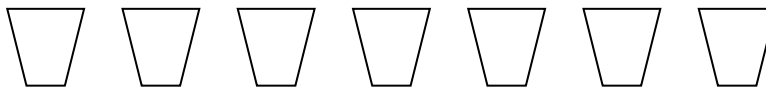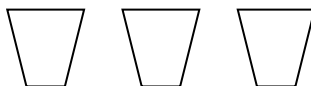
= 10 drinks

Monday

Tuesday

Wednesday

Thursday

Friday

Use this pictogram to answer the questions below:

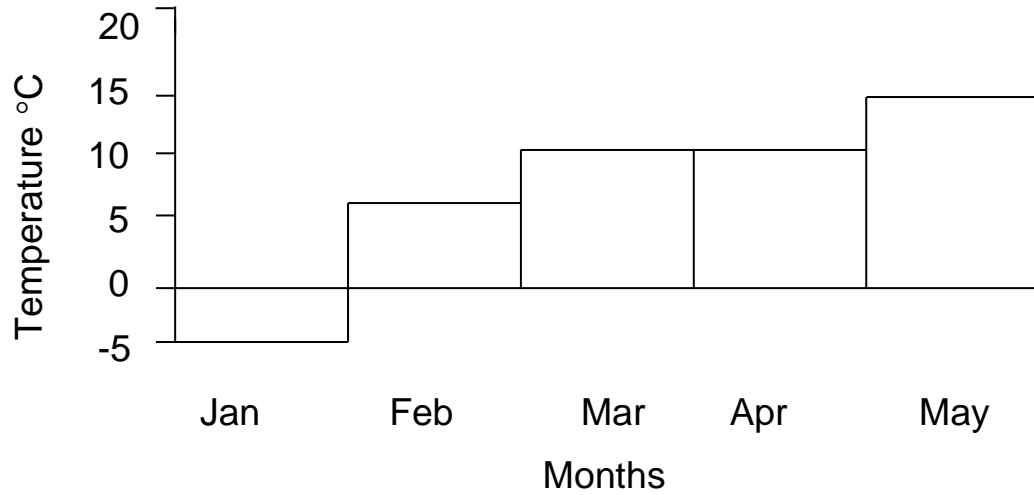(i) How many drinks are sold on a Tuesday?
Circle your answer.

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
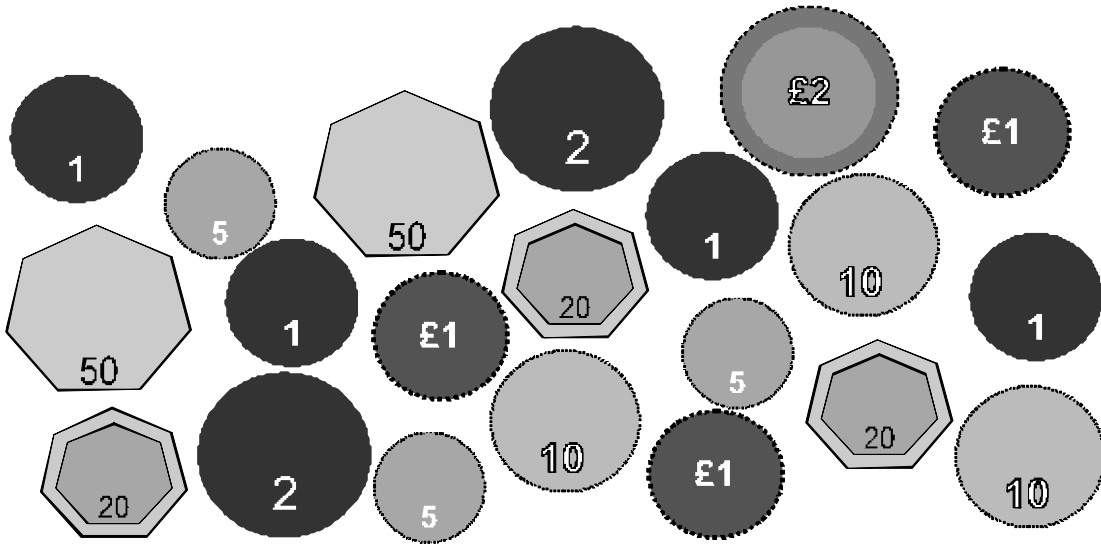
Using the bar chart:

(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

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	Tally		Frequency
			Number of Coins	
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

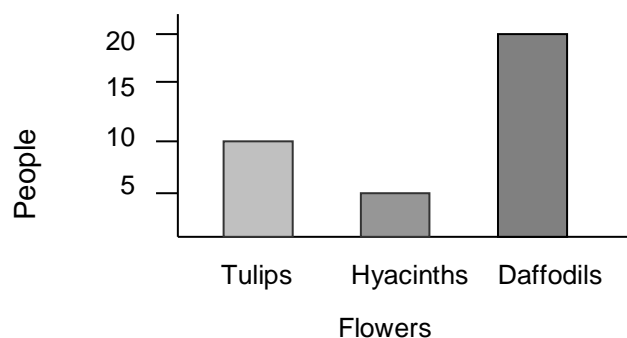**Total : 4**

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.
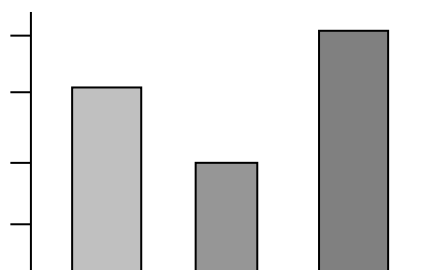
a)
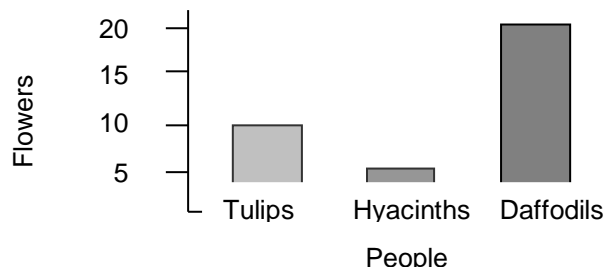
b)

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