

## Revision Theme 2 (addition and subtraction)

- 1) Use a column method to evaluate the following:
- a)  $3028 - 673$                       b)  $4.82 + 21.095$                       c)  $1.823 - 0.95$

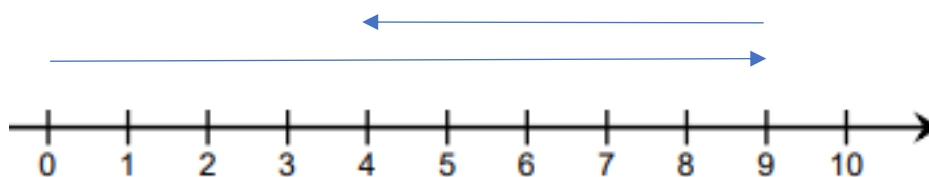
- 2) Use a mental strategy to help you evaluate the following:
- a)  $2.75 - 1.02$     b)  $343 + 176 + 357$   
c)  $164 - 2 - 3 - 4 - 5 + 223$                       d)  $17.3 - 2.7 + 4.4$

- 3) In a word sum each identical letter stands for the same digit and each different letter stands for a different digit.

How many solutions are there to this word sum?

$$\begin{array}{r} \text{T W O} \\ + \text{T W O} \\ \hline \text{F O U R} \end{array}$$

- 4) The vectors below shows a calculation involving 9, 5 and 4



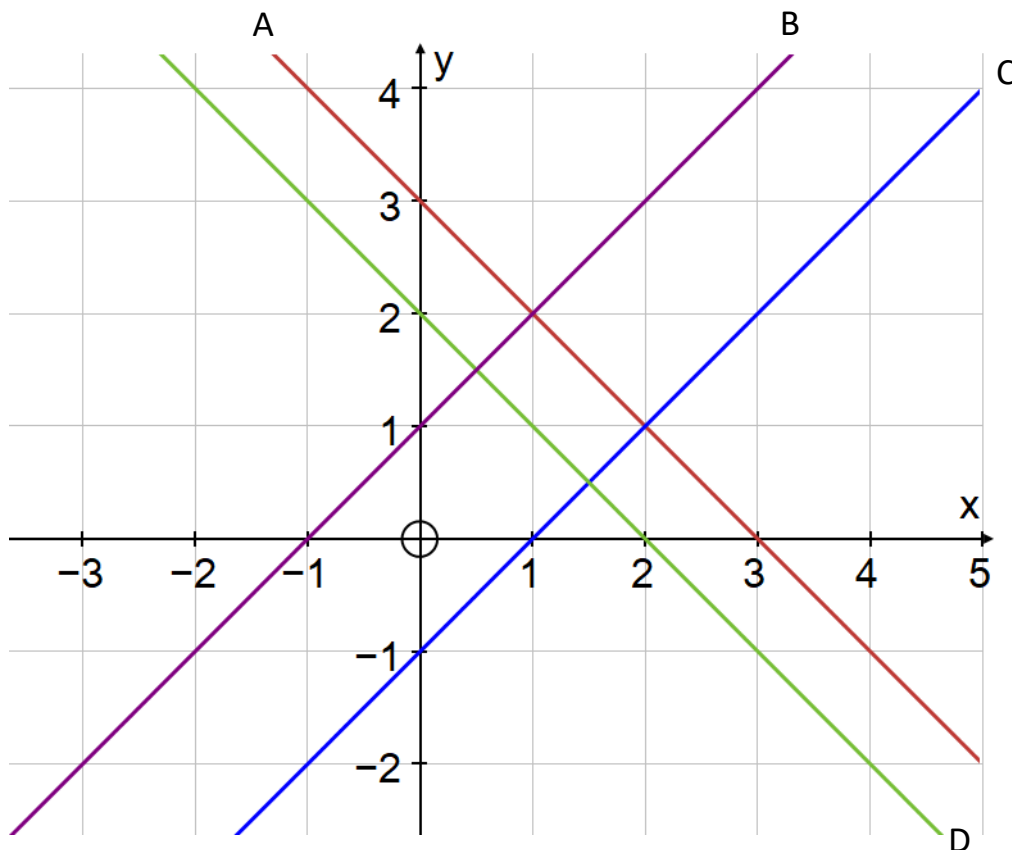
- a) Write down the calculation being shown  
b) Write down three other related calculations involving 9, 5 and 4

5) Evaluate

- a)  $\frac{3}{8} + \frac{7}{10}$                       b)  $\frac{11}{12} - \frac{5}{9}$                       c)  $2\frac{1}{3} - 1\frac{5}{9}$   
d)  $5\frac{3}{10} + 2\frac{7}{15}$                       e)  $35\% + \frac{8}{15}$                       f)  $-2 + 8$   
g)  $5 + -2$                       h)  $-3 + -5$                       i)  $7 - -4$   
j)  $-11 - -4$                       k)  $7 + -12 - -10 + 5$   
l)  $-0.23 + 0.1$                       m)  $-\frac{2}{3} + -\frac{5}{6}$                       n)  $0.7 - -0.09$

- 6) Bathrooms are advertised as 35% off in a sale. Find the price of a bathroom that is £6,000 before the sale.

- 7) Kerry has 45 marbles. She increased the number in her collection by 20% and then gave away  $\frac{2}{3}$  of it to a friend in need. How many marbles does she have left?
- 8) Brian had 240 matchsticks, he used up  $\frac{3}{8}$  of them lighting candles and then got some more, increasing the number of matchsticks he now had by  $\frac{2}{15}$ . How many does he have now?
- 9) Toronto has an average December temperature of  $-15^{\circ}\text{C}$  and an average July temperature of  $22^{\circ}\text{C}$ . Find the difference between these two temperatures.
- 10) Find the missing terms in these linear sequences and state the term-to-term rule
- a) 5, 7, 9, \_\_, 13, 15, ...                      b) -4, -10, -16, -22, \_\_, ...
- c) \_\_, 5, 29, 53, 77, ...                          d)  $\frac{1}{3}$ , \_\_,  $1\frac{2}{3}$ ,  $2\frac{1}{3}$ , 3, ...
- e) 0.32, 0.28, 0.24, \_\_, 0.16, ...              f)  $1\frac{1}{4}$ ,  $\frac{3}{4}$ ,  $\frac{1}{4}$ ,  $-\frac{1}{4}$ , \_\_, ...
- 11) Write down the equations of the lines below indicated with letters

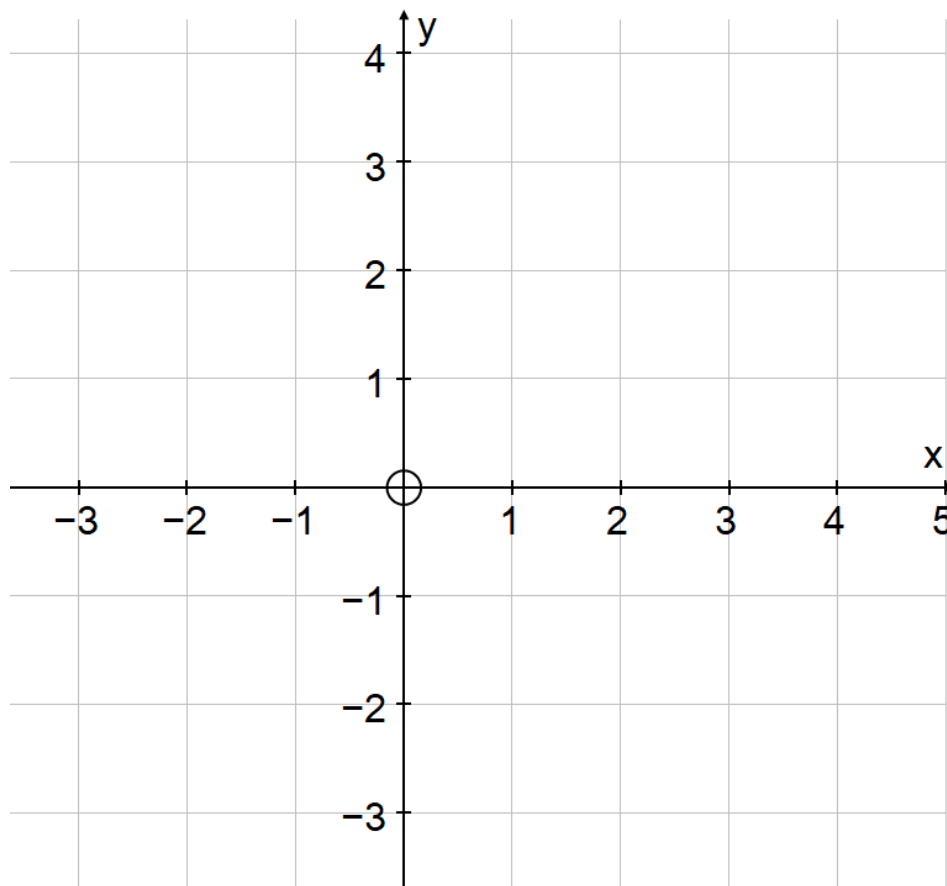


12) On the axes below draw the following lines:

$$y = x + 3$$

$$x + y = 1$$

$$y = 4 - x$$



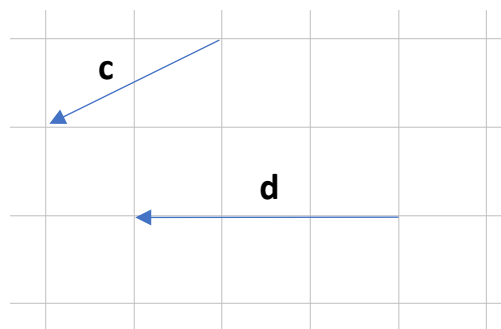
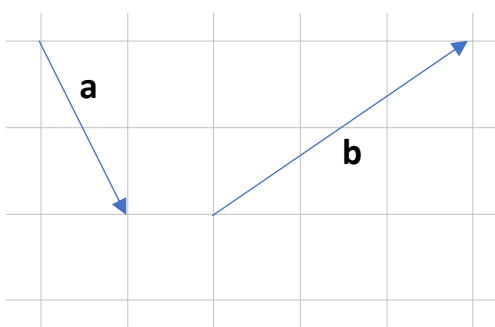
Now use your lines to show the single region R that satisfies all three inequalities:

$$y \leq x + 3$$

$$x + y > 1$$

$$y \leq 4 - x$$

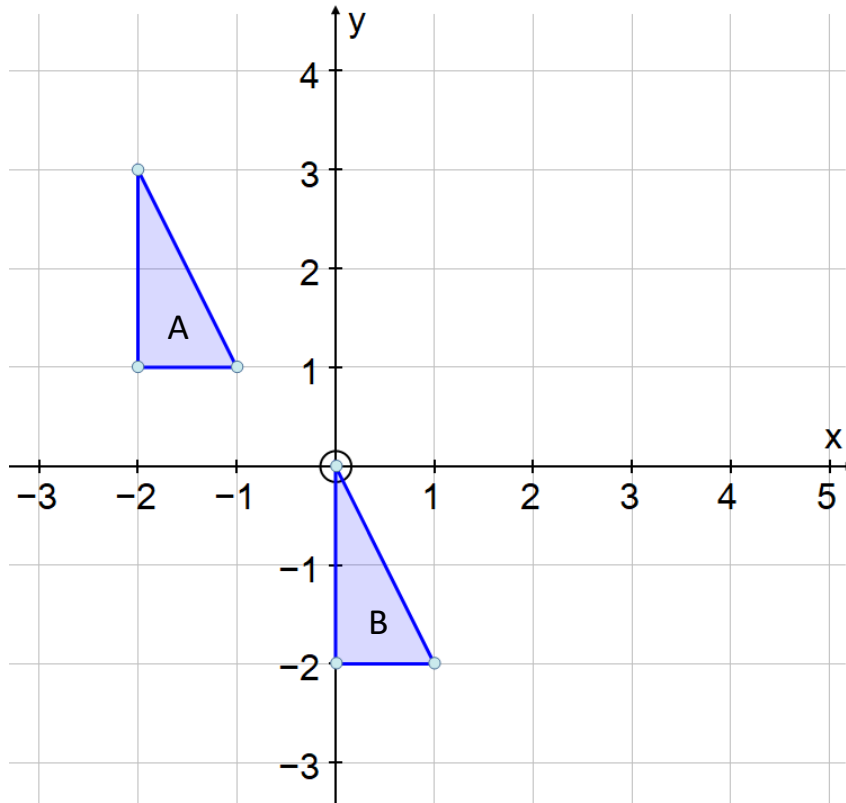
13) Write down column vectors to describe the vectors given below:



14)  $\mathbf{p} = \begin{pmatrix} 2 \\ -3 \end{pmatrix}$        $\mathbf{q} = \begin{pmatrix} 0 \\ -5 \end{pmatrix}$        $\mathbf{r} = \begin{pmatrix} 2 \\ 0 \end{pmatrix}$        $\mathbf{s} = \begin{pmatrix} 4 \\ -6 \end{pmatrix}$

- Which of the vectors above are vertical directions?
- Which of the vectors above are horizontal directions?
- Which of the vectors above are going in the same direction?

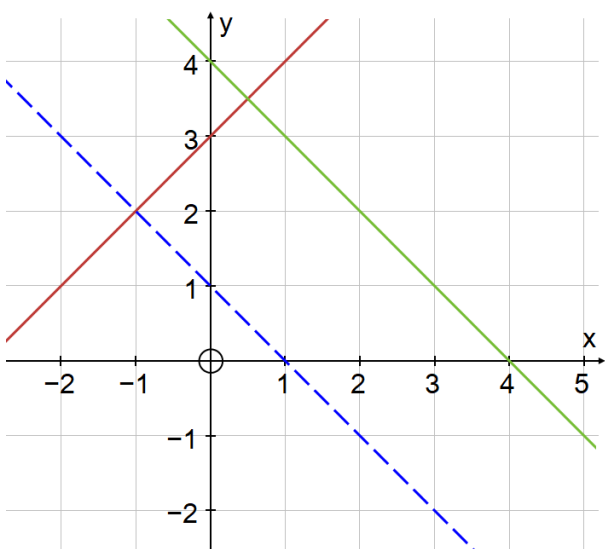
15)



- Write down the transformation mapping A to B
- Translate triangle B by  $\begin{pmatrix} -1 \\ 3 \end{pmatrix}$  and call this C
- Translate triangle A by  $\begin{pmatrix} 5 \\ -2 \end{pmatrix}$  and call this D
- Write down the transformation mapping C to D

Answers

- 1a) 2355 b) 25.915 c) 0.873 2a) 1.73 b) 876 c) 373 d) 19 3) seven possibilities  
 4a)  $9 - 5 = 4$  b)  $9 - 4 = 5, 4 + 5 = 9, 5 + 4 = 9$  5a)  $1 \frac{3}{40}$  b)  $\frac{13}{36}$  c)  $\frac{7}{9}$  d)  $7 \frac{23}{30}$  e)  $\frac{9}{10}$  f) 6  
 g) 3 h) -8 i) 11 j) -7 k) 10 l) -0.13 m)  $-1 \frac{1}{2}$  n) 0.79 6) £3,900 7) 18 8) 170 9) 37C



- 10a) 11, add 2 b) -28 c) -19, add 24 d) 1, add  $\frac{2}{3}$   
 e) 0.2, subtract 0.04 f)  $-\frac{3}{4}$ , subtract  $\frac{1}{2}$   
 11) A:  $x + y = 3$  or  $y = 3 - x$  B:  $y = x + 1$   
 C:  $y = x - 1$  D:  $x + y = 2$  or  $y = -x + 2$   
 13)  $\mathbf{p} = \begin{pmatrix} 1 \\ -2 \end{pmatrix}$   $\mathbf{p} = \begin{pmatrix} 3 \\ 2 \end{pmatrix}$   $\mathbf{p} = \begin{pmatrix} -2 \\ -1 \end{pmatrix}$   $\mathbf{p} = \begin{pmatrix} -3 \\ 0 \end{pmatrix}$   
 14a)  $\mathbf{q}$  b)  $\mathbf{r}$  c)  $\mathbf{p}$  and  $\mathbf{s}$   
 15a) translate by  $\begin{pmatrix} 2 \\ -3 \end{pmatrix}$  15b) translate by  $\begin{pmatrix} 4 \\ -2 \end{pmatrix}$