

Revision Theme 2 (addition and subtraction)

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

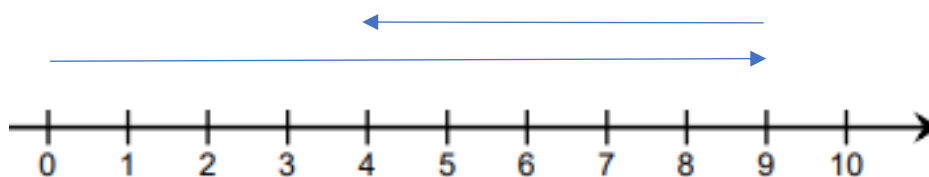
- 2) Use a mental strategy to help you evaluate the following:
a) $2.75 - 1.02$ b) $343 + 176 + 357$
c) $164 - 2 - 3 - 4 - 5 + 223$ d) $17.3 - 2.7 + 4.4$

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

Can you find a solution to this problem?

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

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



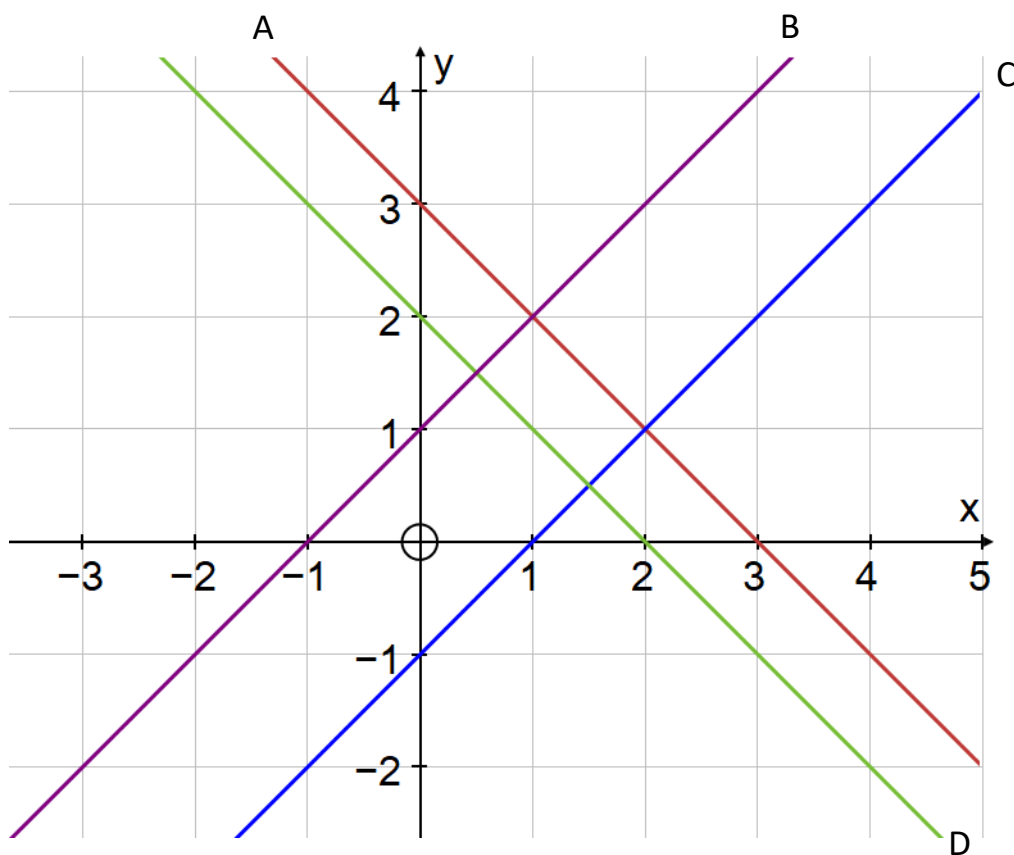
- a) Write down the calculation being shown
b) Write down three other related calculations involving 9, 5 and 4

- 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°C and an average July temperature of 22°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

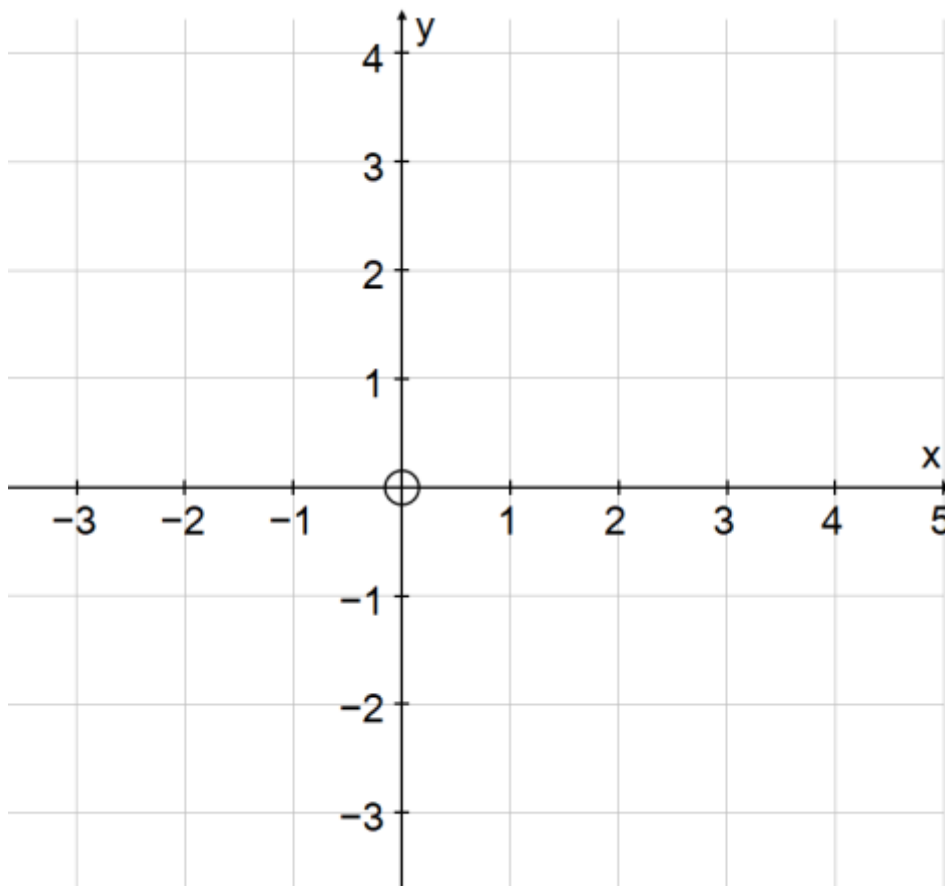


12) On the axes below draw the following lines:

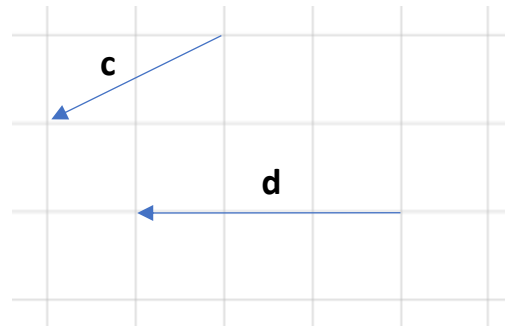
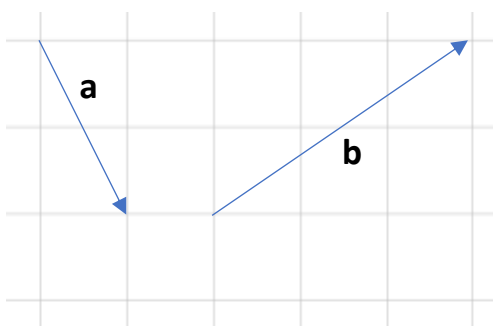
$$y = x + 3$$

$$x + y = 1$$

$$y = 4 - x$$



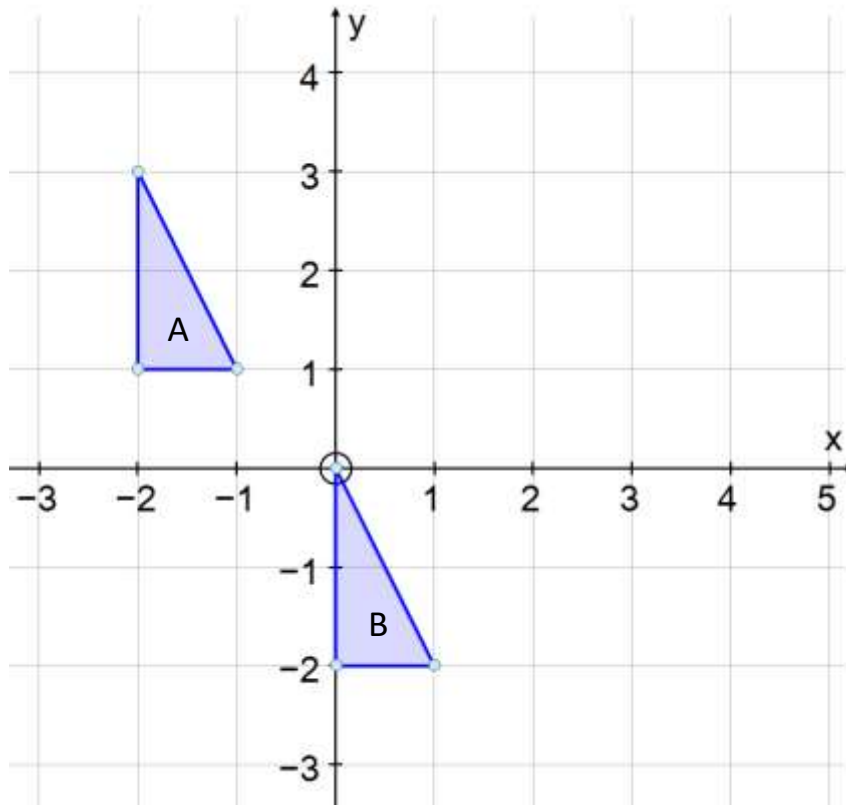
13) Write down column vectors to describe the vectors given below:



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

- a) Which of the vectors above are vertical directions?
- b) Which of the vectors above are horizontal directions?
- c) 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) check with teacher

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 $\begin{pmatrix} 4 \\ -2 \end{pmatrix}$

