

REVISION WORKSHEET 3

Numbers & Computation & Consumer Arithmetic

1)

- (a) One day Amit works from 08 00 until 17 00.
The time he spends on filing, computing, writing and having lunch is in the ratio

$$\text{Filing: Computing: Writing: Lunch} = 2 : 5 : 4 : 1.$$

Calculate the time he spends

- (i) writing, [1]
- (ii) having lunch, giving this answer in minutes. [1]
- (b) The amount earned by Amit, Bernard and Chris is in the ratio 2 : 5 : 3.
Bernard earns \$855 per week.
Calculate how much
- (i) Amit earns each week, [1]
- (ii) Chris earns each week. [1]
- (c) After 52 weeks Bernard has saved \$2964.
What fraction of his earnings has he saved?
Give your answer in its lowest terms. [2]
- (d) Chris saves \$3500 this year. This is 40% more than he saved last year.
Calculate how much he saved last year. [3]
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2)

Paula wishes to change 1000 francs into dollars. She has a choice of two methods.

Method A: exchange 1000 francs at a rate of \$1 = 4.15 francs.

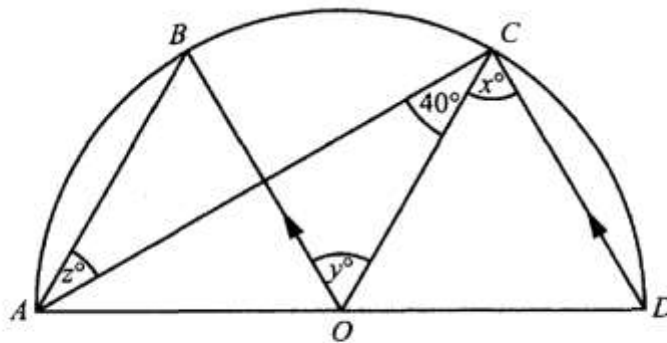
Method B: pay 20 francs commission and then exchange the rest at a rate of \$1 = 4.00 francs.

Calculate which method gives her more dollars.

Write down, correct to two decimal places, how many **more** dollars she gets.

GEOMETRY & TROGONOMETRY

3)



NOT TO SCALE

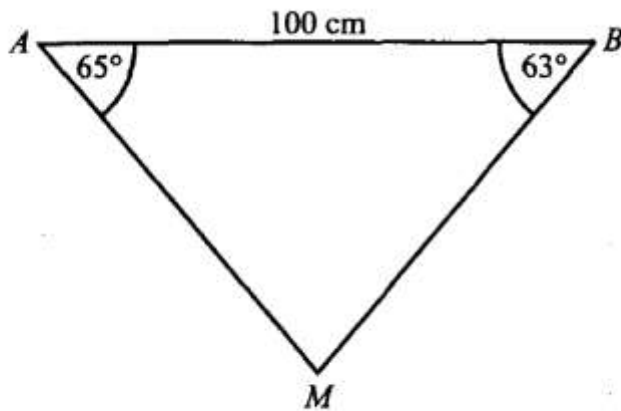
AOD is the diameter of semicircle $ABCD$. Angle $ACO = 40^\circ$ and DC is parallel to radius OB . Find the values of x , y and z .

Answer $x = \dots\dots\dots$

$y = \dots\dots\dots$

$z = \dots\dots\dots$ [3]

4)



NOT TO SCALE

In triangle ABM , $AB = 100$ cm, angle $MAB = 65^\circ$ and angle $ABM = 63^\circ$.

Caclualte the length of BM

MATRICES & VECTORS

5)

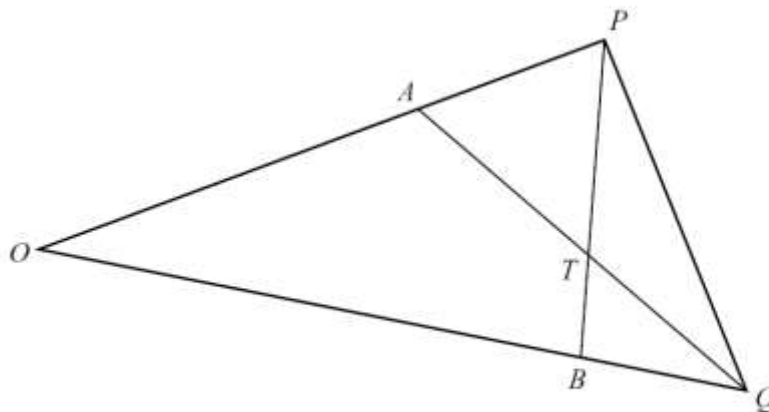
(a) Multiply $\begin{pmatrix} 5 & 4 \\ -3 & -2 \end{pmatrix} \begin{pmatrix} 2 & 1 & -4 \\ 0 & 3 & 6 \end{pmatrix}$.

Answer (a) $\begin{pmatrix} & & \\ & & \end{pmatrix}$ [2]

(b) Find the inverse of $\begin{pmatrix} 5 & 4 \\ -3 & -2 \end{pmatrix}$.

Answer (b) $\begin{pmatrix} & \\ & \end{pmatrix}$ [2]

6)



NOT TO SCALE

In the diagram $OA = \frac{2}{3}OP$ and $OB = \frac{3}{4}OQ$.
 $\vec{OP} = \mathbf{p}$ and $\vec{OQ} = \mathbf{q}$.

(a) Find in terms of \mathbf{p} and \mathbf{q}

(i) \vec{AQ} ,

Answer (a)(i) $\vec{AQ} = \dots\dots\dots$ [2]

(ii) \vec{BP} .

Answer (a)(ii) $\vec{BP} = \dots\dots\dots$ [2]

(b) AQ and BP intersect at T .

$BT = \frac{1}{3}BP$.

Find \vec{QT} in terms of \mathbf{p} and \mathbf{q} , in its simplest form.