

Name : _____ Class : _____ Date : _____

Topic : *Simultaneous Equations*

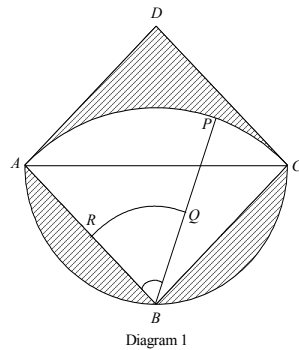
- 1 Solve the simultaneous equations $3m + 2n = 3m^2 + mn + 6 = 7$. Give your answer correct to three decimal places. [6 marks]

Topic : *Coordinate Geometry*

- 2 The coordinates of point A , B and C are $(1, 2)$, $(7, 8)$ and $(-3, k)$ respectively. Given that the area of $\triangle ABC$ is 24 unit^2 .
- (a) Find
- the possible values of k .
 - the equation of perpendicular bisector of AB . [6 marks]
- (b) A point P moves such that its distance from point A is always $\sqrt{10}$ units.
- Find the equation of the locus of P .
 - Determine whether or not this locus passes through the point $(4, 1)$. [4 marks]

Topic : *Circular Measure*

- 3 Diagram 3 shows a square $ABCD$ with sides 5 cm in length. $BAPC$ is a sector with its centre at B and ABC is a semicircle.



[Use $\pi = 3.142$]

- (a) Calculate
- the area of the segment APC , [2 marks]
 - the perimeter of the shaded regions, [2 marks]
 - the area of the shaded regions, [2 marks]
- (b) Given that BQR is a sector with an angle θ at its centre, B and the length of the arc AP is 6 cm , find
- the angle θ in radians, [1 mark]
 - the length of the arc QR if the area of $APQR$ is 12.6 cm^2 . [3 marks]

Topic : Index Number

- 4 Diagram shows the bar chart for the monthly sales of five essential items sold at a sundry shop. Table shows their price in the year 2000 and 2006, and the corresponding price index for the year 2006 taking 2000 as the base year.

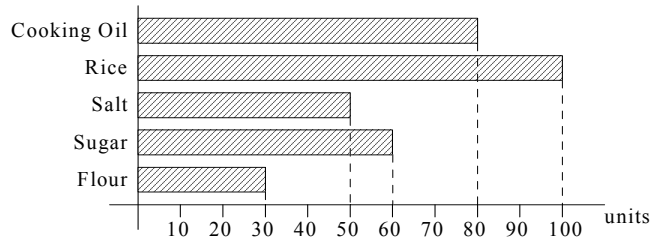


Diagram 2

Items	Price in the year 2000	Price in the year 2006	Price Index for the year 2006 based on the year 2000
Cooking Oil	x	RM2.50	125
Rice	RM1.60	RM2.00	125
Salt	RM0.40	RM0.55	y
Sugar	RM0.80	RM1.20	150
Flour	RM2.00	z	120

- (a) Find the values of
 (i) x,
 (ii) y,
 (iii) z. [3 marks]
- (b) Find the composite price index for cooking oil, rice, salt, sugar and flour in the year 2006 based on the year 2000. [2 marks]
- (c) The total monthly sale for cooking oil, rice, salt, sugar and flour in the year 2000 is RM 2 500. Calculate the corresponding monthly sale for the same items in the year 2006. [2 marks]
- (d) From the year 2006 to the year 2007, the price of the cooking oil, rice and sugar increased by 2%, while the price of both salt and flour increased by 5 sen. Find the composite price index for all the five items in the year 2007 taking 2006 as the base year. [3 marks]

Topic : Solution Of Triangle

- 5 Diagram 5 shows two triangles ABE and CDE. Given that AB = 20 cm, DE = 10 cm, $\angle BAE = 30^\circ$, AE = BE and AED is a straight line.

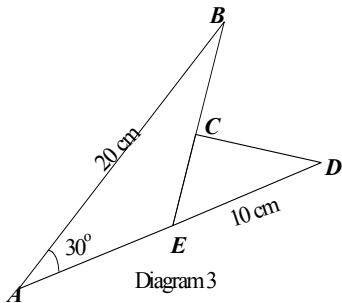


Diagram 3

- (a) Find the length, in cm, of AE. [2 marks]
- (b) If the area of triangle ABE is twice the area of triangle CDE, find the length of CE. [3 marks]
- (c) Find the length of CD. [2 marks]
- (d) (i) Calculate the angle CDE.
 (ii) Sketch and label the triangle CDF inside the triangle CDE, such that CF = CE and angle CDF = angle CDE. [3 marks]