NO: DATE: Hari Raya Hols.

Holiday Assignment.

- Assessment paper Set B.

TB2B, pg 187

1. interest earned after 2 years.

$= \frac{4}{100} \times \$12500 \times 2$

$=$

2. Distance = 364 km.

Speed = 56 km/h.

Time $= \frac{364}{56}$

$= 6\frac{1}{2}$ h.

∴ time arrive at B = 10 30 + $6\frac{1}{2}$ h

= 17 00 //

3. (a). $3.76 \times 10^{-2} + 4.71 \times 10^{-3}$.

$= 37.6 \times 10^{-3} + 4.71 \times 10^{-3}$

$= 42.31 \times 10^{-3}$

$= 4.231 \times 10^{-2}$ //

(b). S$1374 $= \frac{1}{1.74} \times$ S1374

≈ USD$214.94 //

4. (a). % increase $= \frac{\$72000 - \$72000}{\$72000} \times 100\%$

≈ 22.2 % (1 d.p.).

(b). $xy = 17$.

$17 = 1 \times 17$

$= -1 \times -17$

∴ xy can be (1; 17), (17; 1), (−1; −17), (−17; −1). //

6. $\frac{CB}{PQ} = \frac{AC}{RP} = \frac{1}{2}$.

∴ RQ $= \frac{2}{1} \times 3$.

= 6 units. //

7. (a) circumference of wheel.

$= \frac{22}{7} \times 56$ cm

= 176 cm //

(b). Distance travelled

= 176 × 125

= 220 m //

8. Length of rectangle

$= (6 - 1 - 1) \div 2$

= 2 units.

Area of rectangle

= 2 × 1

= 2 units^2

∴ Breadth of rectangle

$= \frac{1 \text{ unit}}{2 \text{ units}^2} \times 32 \text{ cm}^2$

$= \frac{1 \text{ unit}}{\sqrt{2} \text{ unit}} \times \sqrt{32}$ cm

= 4 cm //

10. fifth sector

$= \frac{360° - 95° - 96° - 48° - 77°}{360°} \times 100\%$

= 15% //

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11. volume of rectangle
= 6cm × 2cm × 2cm
= 24cm³
volume of a square pyramids.
= $\frac{1}{3}$ × 2cm × 2cm × [(24cm − 6cm) ÷ 2]
= 12cm³.
∴ total volume of solid.
= 12cm³ + 12cm³ + 24cm³
= 48cm². //

12. (a). (i). $A\hat{B}C = 180° - (360° \div 5)$.
$= 108°$.
(ii). $B\hat{C}E$ =
(b) trapezium. //

13. (a) $1\frac{3}{5}, 2\frac{4}{6}, 3\frac{5}{7}, 4\frac{6}{8}, 5\frac{7}{9}, 6\frac{8}{10}$
(b). 10, 40, 90, 160, 250, 360, 490.

14. (a). (i). $\frac{AB}{DP} = \frac{5}{3}$.
$\therefore \frac{AQ}{AD} = \frac{5}{8}$ //
(ii). $\frac{PD}{DC} = \frac{3}{8}$.
$\therefore \frac{QD}{BC} = \frac{3}{8}$ //
(b). (i). $A\hat{L}M = 70°$ //
(Similar to $A\hat{C}B$).
(ii) $\frac{LM}{CB} = \frac{12}{24}$
$= \frac{1}{2}$.
$\therefore AB = \frac{2}{1} \times 13$
$= 26$. //

15. (a).
Length of flag pole.
$= \frac{4.9}{1.5} \times 2m$
$= 6m$. //
(b). 53° //

16. (a). $(\frac{1}{x} - 1.2)^2 = 0$.
$\frac{1}{x^2} - 2.4\frac{1}{x} + 1.44 = 0$.
$\frac{1}{x} - 2.4 + 1.44x = 0$.
$\frac{1}{x} + 1.44x = 2.4$.
$1 + 1.44x^2 = 2.4x$
$1.44x^2 - 2.4x + 1 = 0$.
$(12x - 10)(12x - 10) = 0$
$12x - 10 = 0$
$12x = 10$
$x = \frac{5}{6}$ //

(b). $4a^4 + 4a^2b + b^2 - c^2$
$= (2a^2 + b + c)(2a^2 + b - c)$ //

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Paper II.

- Section A.

2. (a) $x + y = 315$.

$x - y = 45$.

$\therefore y = (315 - 45) \div 2$

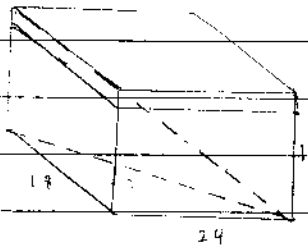
$= 135$

$\therefore$ ratio $= x : y$

$180 : 135$

$4 : 3$ //

(b).



(i) length of sides of triangle

$= a^2 + b^2 = c^2$.

$\therefore 18^2 + 24^2 = 30^2$

The length of the stick is 30cm //

(ii). length of sides of triangle

$= a^2 + b^2 = c^2$

$\therefore 16^2 + 30^2 = 34^2$.

The length of the stick is 34 cm //

4. (a). size of each exterior angle

$= 360^\circ \div 5$

$= 72^\circ$ //

(b). (i). $\angle AXE = 180^\circ - 72^\circ - 72^\circ$

$= 36^\circ$ //

(ii). kite //

(iii) Cx is a line of symmetry.

There are no rotational symmetry

Section B.

6. (a). 4^{th} pattern $= [(4 - 1) \times 3) + 5] \times 3$

$= 42$ //

(b). n^{th} pattern $= [(n - 1) \times 3) + 5] \times 3$

$= 9n + 6$.

(c). $2w = 8$

(i).

8. (a). Eddie's examples all are all selected specially so that they add up to get a perfect squares. Therefore each examples also have different amount of numbers adding to it. (eg. $3 + 5 + 7 = 15$) is not a perfect square. //

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(i). The sum of any number of consecutive odd numbers starting with one, would add up to a square number (perfect square).

$1+3+5 = 9 = 3^2$

$1+3+5+7 = 16 = 4^2$.

$1+3+5+7+9 = 25 = 5^2$.

$1+3+5+7+9+11 = 36 = 6$.

(b). $ym \times 10s = xm \times 8s$ — ①

$ym \times \left(\frac{8m}{y} + 5s\right) = xm \times ys$. — ②

From ①: $10y = 8x$ — ③.

From ②: $8 + 5y = 5x$

$16 + 10y = 10x$ — ④.

Method: ③ − ④.

$10y - (16 + 10y) = 8x - 10x$.

$-16 = -2x$.

$x = \frac{-16}{-2}$

$= 8$. //

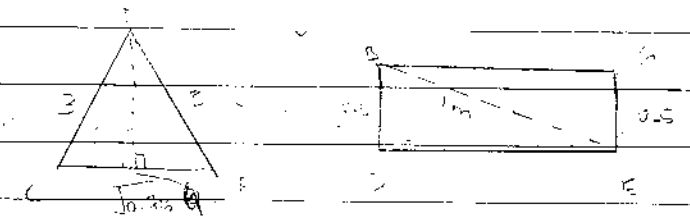
Sub $x = 8$ into ③.

$10y = 8 \times 8$

$10y = 64$.

$y = 6.4$. //

9. (a).



$a^2 + b^2 = c^2$. (Pythagoras theorem).

$BC^2 + CE^2 = BE^2$.

$\therefore 0.5^2 + CE^2 = 1^2$.

$CE^2 = 1 - 0.25$

$CE^2 = 0.75$.

$CE = \sqrt{0.75}$

≈ 0.86603 (5 S.F.)

$\sin C\hat{D}G = \frac{\frac{1}{2}(0.86602)}{3}$

$C\hat{D}G = \sin^{-1}\left(\frac{\frac{1}{2}(0.86602)}{3}\right)$

$= 8.2990^\circ$

$\therefore \angle CDE = 8.2990^\circ \times 2$

$= 16.598^\circ$

$= 16.6^\circ$ (1 d.p) //