WOODLANDS RING SECONDARY SCHOOL

Name : _____ **Reg No.** _____ **Class :** _____

EXAMINATION	:	**END-OF-YEAR EXAMINATION**	
LEVEL	:	**SECONDARY 1 EXPRESS**	**DATE : 03 Oct 2018**
SUBJECT	:	**MATHEMATICS**	**PAPER : 1**
DURATION	:	**1 hour 15 minutes**	**MAX MARKS: 50**
SETTER(S)	:	**Mr Felix Yeoh**	**Parent's/Guardian's Signature:**

INSTRUCTIONS TO CANDIDATES

Write your name, class and register number on all the work you hand in.
Write in dark blue or black pen in the spaces provided on the Question Paper.
You may use a soft pencil for any diagrams or graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.
The number of marks is given in brackets [ ] at the end of each question or part question.
If working is needed for any question, it must be shown with the answer.
Omission of essential working will result in loss of marks.

The use of an approved scientific calculator is expected, where appropriate.
If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place.
For π, use either your calculator value or 3.142, unless the question requires the answer in terms of π.

For Examiner's Use
/50

Answer **all** the questions.

1 **(a)** Express 1875 as a product of its prime factors in index notation.

Answer ..... [1]

(b) Using your answer in **(a)**, find the lowest common multiple of 1875 and 441. Leave your answer in index notation.

Answer ..... [2]

(c) Find the least value of an integer k, such that $\frac{1875}{k}$ is a perfect cube.

Answer ..... [2]

---

2 Arrange the following number in descending order.

$$1.21^3 \ , \ 1.31^2 \ , \ 1.\dot{7} \ , \ \sqrt{3} \ , \ \sqrt[3]{\frac{16}{3}}$$

Answer ..... [2]

---

3 Miranda recently participated in a 8 km run with 5 of her friends. They listed the time they took to complete the run.

Name	Time (hr : min : sec)
Miranda	0 : 58 : 19
Ishwa	1 : 05 :00
Ning Shen	0 : 54 : 20
Irene	1 : 12 : 15
Olivia	1 : 03 : 21
Nurul	0 : 56 : 05

(a) By rounding off the timing of each person to the nearest ten minutes, estimate the total time taken by Miranda and her friends in minutes.

Answer ..... min [2]

(b) Last year, Ishwa's timing was 1 : 10 : 00. Calculate the percentage decrease in her timing.

Answer .....% [2]

(c) The group of friends was given 15% discount on the original entrance fees as they had signed up as a group of six. In total, they paid $510.
If they were to sign up for the run individually, how much would they have to pay in total?

Answer $ ..... [2]

4 Xavier's mass is x kg. His brother, Yuri weighs 5 kg lighter than him. Their father is twice of Yuri's mass.

(a) Write down and simplify an expression, in terms of x, for

(i) Yuri's mass,

(ii) their father's mass,

(iii) the sum of masses of Xavier, his brother and his father.

Answer (i) ..... kg [1]

(ii) ..... kg [1]

(iii) ..... kg [1]

(b) Xavier, Yuri and their father have a combined mass of 165 kg.
Calculate the value of x.

Answer $x =$ ..... [2]

---

5 **(a)** Given that $p = -2$, evaluate $\dfrac{1-2p}{1+p}$.

Answer ..... [1]

(b) If $x = 3, y = -1$ and $z = -4$, find the value of $x(y-1) + z^2x$.

Answer ..... [2]

---

6 Simplify the following expressions.

(a) $5x-2y-(x-3y)$

Answer ..... [1]

(b) $3(x-2y)-[5x-(-2x+y)]$

Answer ..... [2]

---

7 Solve the following equations.

(a) $\frac{2x+7}{4}=12$

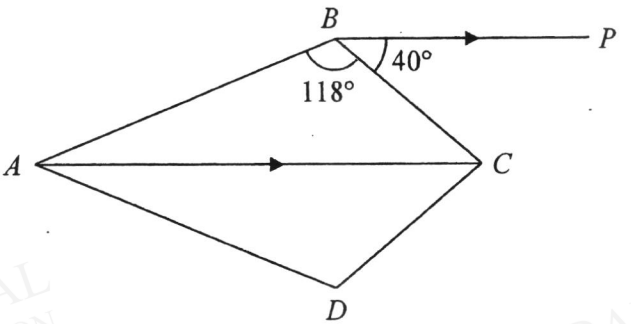
Answer ..... [2]

(b) $\frac{3y-2}{4}-\frac{y}{2}=3$

Answer ..... [2]

---

8 The following diagram shows a kite $ABCD$. BP is parallel to AC, $\angle ABC = 118°$ and $\angle PBC = 40°$.



Find

(a) $\angle BCD$,

Answer .....° [1]

(b) $\angle BAD$.

Answer .....° [2]

---

9 **(a)** Round off 0.001449 to 1 significant figure.

Answer ..... [1]

(b) Express 27493000 correct to 2 significant figures.

Answer ..... [1]

---

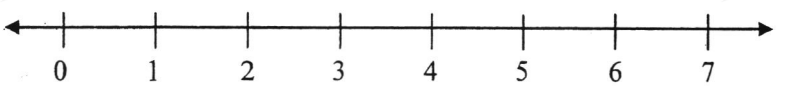
10 **(a)** Construct triangle ABC with $AB = 6$ cm, $BC = 7$ cm and $\angle ABC = 60°$. [2]

(b) By construction, mark the point M, which is equidistant from points A and B as well as from lines AB and BC. [2]

Answer

---

11 **(a)** Solve the inequality $4y + 7 < 17$ and illustrate its solution on the given number line.



[2]

(b) Hence, state the greatest value of y if

(i) y is an even number,

Answer ..... [1]

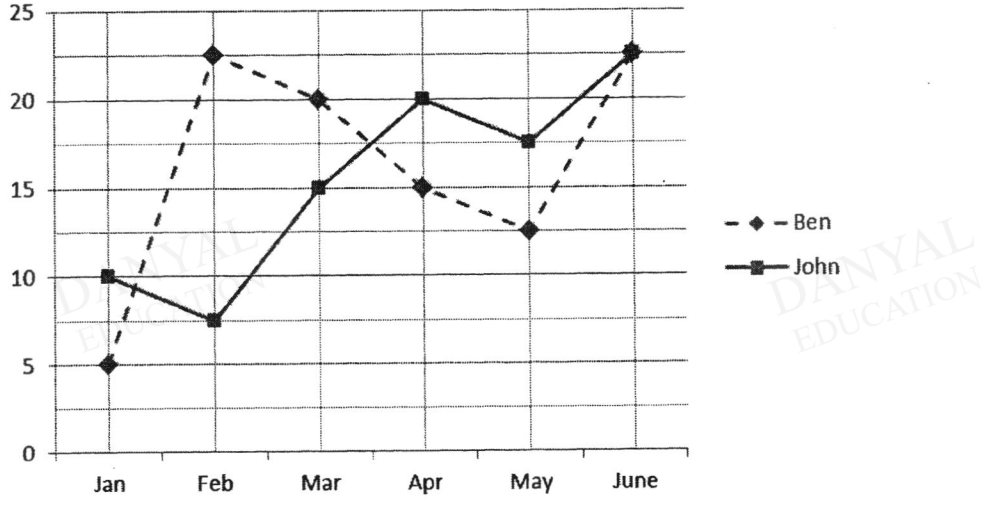
(ii) y is a multiple of 3.

Answer ..... [1]

---

12 Ben and John are classmates. The line graph below shows their savings over a period of 6 months. Their parents give them allowances of $5 a day only for school days.

Use the information provided to answer each of the following questions.



(a) Calculate their total savings in the month of April.

Answer $ ..... [1]

(b) On one of the months, the ratio of Ben's savings to John's savings was 3 : 1.
Which month was it?

Answer ..... [1]

(c) Suggest a reason for Ben's savings to increase by $17.50 between January and February.

Answer .....

..... [1]

(d) Their classmate, Adnan, claims that they are unlikely to save $22.50 each in the month of June.
Justify Adnan's claim.

Answer .....

..... [1]

13 A survey was conducted to find out the number of books every pupil in a group of 60 pupils read on a particular week. The frequency table shows the results of the survey.

Number of books	0	1	2	3	4	5	6
Number of pupils	3	18	x	8	7	3	2

(a) Write down the value of x.

Answer ..... [1]

(b) The information will be represented in a pie chart. Calculate the angle of the sector in the pie chart that will represent the number of pupils who read 3 books in the week.

Answer .....° [2]

(c) Write the ratio of the number of pupils who read at least 1 book in two days to the number of pupils who read less than 1 book in two days in a week, in the simplest form.

Answer ..... [2]

[END OF PAPER]

WOODLANDS RING SECONDARY SCHOOL

Name : _____ **Reg No.** _____ **Class :** _____

EXAMINATION	:	**END-OF-YEAR EXAMINATION**	
LEVEL	:	**SECONDARY 1 EXPRESS**	**DATE: 05 Oct 2018**
SUBJECT	:	**MATHEMATICS**	**PAPER: 2**
DURATION	:	**1 hour 15 minutes**	**MAX MARKS: 50**
SETTER(S)	:	**Mr Jimmy Kong**	**Parent's/Guardian's Signature:**

ADDITIONAL MATERIAL : Graph Paper (1 sheet)

INSTRUCTIONS TO CANDIDATES

Write your name, class and register number on all the work you hand in.
Write in dark blue or black pen in the spaces provided on the Question Paper.
You may use a pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.

Answer **all** questions.
The number of marks is given in brackets [ ] at the end of each question or part question.
If working is needed for any question, it must be shown with the answer.
Omission of essential working will result in loss of marks.

The use of an approved scientific calculator is expected, where appropriate.
If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place.
For π, use either your calculator value or 3.142, unless the question requires the answer in terms of π.

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1 The original price of a box of chocolate was \$16.80. During the Great Singapore Sale, there was a 30% discount. Calculate the sale price of the chocolate.

Answer \$..... [2]

---

2 At noon on a particular day, the temperature at the foot of a mountain was 14°C and the temperature at the peak of the mountain was -8 °C.

(a) Calculate the difference between the temperature at the peak of the mountain and the temperature at the foot of the mountain.

Answer ..... °C [1]

(b) The height of the mountain is 2640 m. Given that the temperature changed with height at a constant rate, calculate the height from the foot of the mountain at which the temperature was 0°C.

Answer ..... m [2]

---

3 In a certain month, Ronan Bakery packs 480 sausage buns, 720 cheese twists and 2460 doughnuts to make as many sets of items as possible for distribution to needy families. Each set has the same number of sausage buns, cheese twists and doughnuts.

(a) Find the greatest number of sets of items that can be distributed.

Answer ..... sets [2]

(b) How many items does each set have?

Answer ..... items [1]

4 Factorise each of the following expressions completely.

(a) $6p^2q + 9pq^2r + 12pqr$

Answer ..... [2]

(b) $(x + 2) - 2y(x + 2)$

Answer ..... [1]

---

5 Express $\frac{y-3}{4} - \frac{y+5}{3} + 1$ as a single fraction in its lowest term.

Answer ..... [3]

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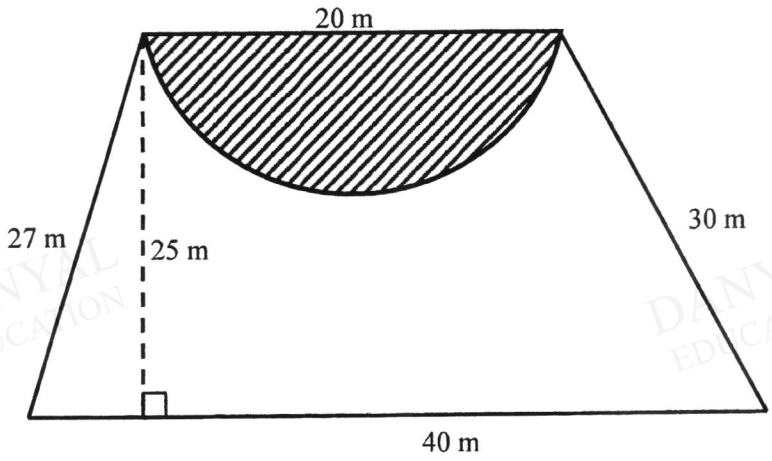
6 Mr Tan decides to have a garden planted in his backyard. His backyard is in the shape of a trapezium. His garden will occupy the area of the backyard except for a semi-circular piece (shaded part).



(a) Find the area of the garden he wishes to plant in his backyard.
(Take π to be 3.142.)

Answer .....m^2 [2]

(b) Find the perimeter of the garden. (Take π to be 3.142.)

Answer ..... m [2]

7 A novice marathon runner started his training schedule with a total running distance of 4.1 km at 06 45. He ran at an average speed of 8.5 km/h for 1.7 km before reaching a checkpoint. He stopped to rest for 20 minutes at the checkpoint. He continued running at an average speed of 9.6 km/h for the rest of the journey until he reached his destination.

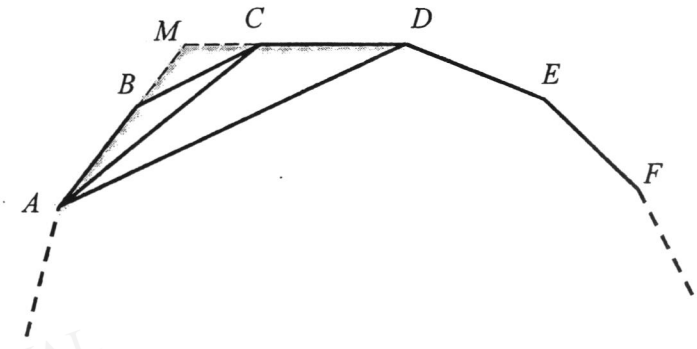
(a) Find the time at which he left the checkpoint to continue his run to his destination.

Answer ..... [2]

(b) Find the novice marathon runner's average speed, in km/h, for the whole journey.

Answer ..... km/h [2]

8 $ABCDEF$ is part of a regular polygon with n sides. Each interior angle of this polygon is 156°. AB produced and CD produced intersect at M.



Find

(a) the value of n,

Answer $n =$ ..... [1]

(b) $\angle ACD$,

Answer $\angle ACD =$.....° [2]

(c) $\angle MDA$.

Answer $\angle MDA =$.....° [1]

9 The following diagram shows the first three figures of a sequence of triangles.

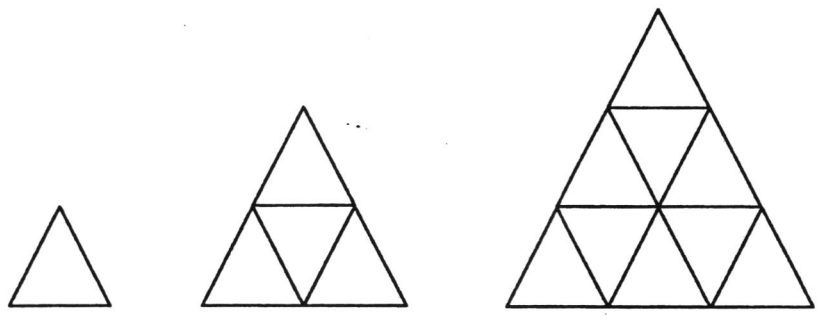


Figure 1 (1 Triangle) | Figure 2 (4 Triangles) | Figure 3 (9 Triangles)

Figure	Number of triangles	Total
1	1	1
2	1 + 3	4
3	1+ 3 + 5	9
4		
5		x
⋮	⋮	⋮
n	$1 + 3 + 5 + \ldots + y$	z

(a) Complete the table above to find the value of x.

Answer $x =$ ..... [1]

(b) Write an expression for y and z, in terms of n, giving your answers in their simplest form.

Answer $y =$ .....

$z =$ ..... [2]

(c) Is it possible for a figure to consist of 3365 triangles?

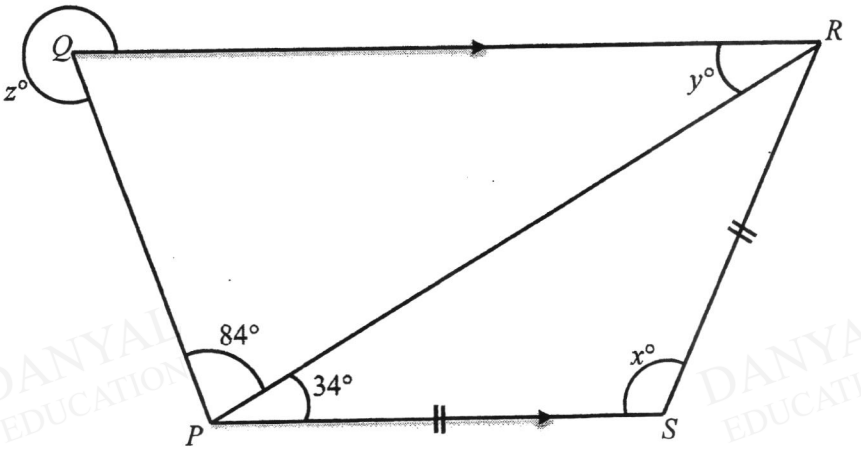
Explain your answer clearly.

Answer .....

.....

..... [2]

10 In a trapezium, $PQRS$, PS is parallel to QR. $PS = SR$, angle $SPR = 34°$ and angle $RPQ = 84°$.



By stating your reasons clearly, find

(a) x,

Answer $x =$..... [2]

(b) y,

Answer $y =$..... [2]

(c) z.

Answer $z =$..... [2]

11 After paying for a meal while on holiday in Singapore, Stella realised that the receipt had not been printed properly and the bottom part of the receipt was blank.

CRAB & CO 10 Tampines Central, Singapore Tel : 6260 0183 GST Reg No : 1998 - 02488H	
03 Aug 18 20: 42: 38	
- Dine In -	**Price (S$)**
2 Seafood PL FOR 2 @83.90	83.90
1 Seafood Spaghetti	17.95
1 Prawn Fettuccini Chili CR	16.95
1 Black Coffee	3.00
4 Cold Water	0.00
1 ($2.50) Soup of the day	2.50
Subtotal	
Svc charge (10 %)	
G.S.T (7 %)	
Nett total	

(a) Calculate the service charge paid by Stella.

Answer S$..... [2]

11 (b) The same meal cost 5105 Philippines pesos (₱) nett in Philippines.

At a current exchange rate of ₱100 = S$2.8542, determine in which country is the meal cheaper.

Find the percentage difference in the meal price. Show your working clearly.

Answer Meal is cheaper in .....

Percentage difference = ... % [5]

12 Answer the whole of this question on a sheet of graph paper.

The variables x and y are connected by the equation $2y = x + 4$. Some corresponding values of x and y are given in the table below.

x	-5	-1	0	1	3
y	-0.5	1.5	p	2.5	3.5

(a) Calculate the value of p. [1]

(b) Using a scale of 2 cm to represent 1 unit on each axis, draw a horizontal x-axis for $-5 \leq x \leq 3$ and a vertical y-axis for $-1 \leq y \leq 4$.

On your axes, plot the points given in the table and join them with a smooth straight line. [2]

(c) Use your graph to find the value of x when $y = 0.5$ [1]

(d) Does the straight line $2y = x + 4$ pass through the point (200, 102)?

Justify your answer with clear working. [2]

~ End of Paper ~

WOODLANDS RING SECONDARY SCHOOL

Name : _____ **Reg No.** _____ **Class :** _____

ASSESSMENT	:	**END OF YEAR EXAMINATION**	
LEVEL	:	**SECONDARY 1 EXPRESS**	**DATE : 03 Oct 2018**
SUBJECT	:	**MATHEMATICS**	**PAPER : 1**
DURATION	:	**1 hour 15 minutes**	**MAX MARKS: 50**
SETTER(S)	:	**Mr Felix Yeoh**	**Parent's/Guardian's Signature:**

MARK SCHEME

Answer **all** the questions.

1 **(a)** Express 1875 as a product of its prime factors in index notation.

Answer ……3×5^4…… [1]

(b) Using your answer in (a), find the lowest common multiple of 1875 and 441. Leave your answer in index notation.

$441 = 3^2 \times 7^2$
$1875 = 3 \times 5^4$

Answer …$\text{LCM} = 3^2 \times 5^4 \times 7^2$….. [2]

(c) Find the least value of an integer k, such that $\frac{1875}{k}$ is a perfect cube.

$$\frac{1875}{k} = \frac{3 \times 5^4}{k}$$

$$\frac{3 \times 5^4}{k} = 5^3$$ **M1 (or any other working)**

Answer ……**15**…… [2]

2 Arrange the following number in descending order.

1.21^3 , 1.31^2 , $1.\dot{7}$, $\sqrt{3}$, $\sqrt[3]{\frac{16}{3}}$

1.772 1.778 1.747 **M1** (show at least 2 correct conversion)
1.716 1.732

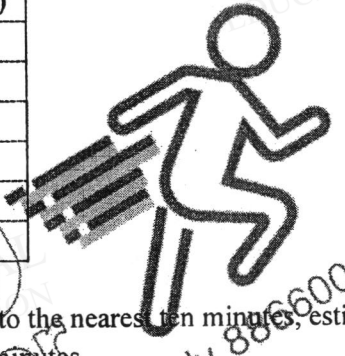
$1.\dot{7}$, 1.21^3 , $\sqrt[3]{\frac{16}{3}}$, $\sqrt{3}$, 1.31^2

Answer ..... [2]

---

3 Miranda recently participated in a 8 km run with 5 of her friends. They listed the time they took to complete the run.

Name	Time (hr : min : sec)
Miranda	0 : 58 : 19
Ishwa	1 : 05 :00
Ning Shen	0 : 54 : 20
Irene	1 : 12 : 15
Olivia	1 : 03 : 21
Nurul	0 : 56 : 05



(a) By rounding off the timing of each person to the nearest ten minutes, estimate the total time taken by Miranda and her friends in minutes.

Total time = 60 + 70 + 50 + 70 + 60 + 60 **M1 (at least 3 correct values)**

Answer .....370..... min [2]

(b) Last year, Ishwa's timing was 1 : 10 : 00. Calculate the percentage decrease in her timing.

Percentage decrease = $\frac{70-65}{70}\times 100$ **M1 (calculating absolute change)**

Answer .....$7\frac{1}{7}$ or 7.14.....% [2]

(c) The group of friends were given 15% discount on the original entrance fees as they sign up as a group of six. In total, they paid $510.
If they were to sign up for the run individually, how much would they have to pay in total?

85 % → 510 100% → $510\times\frac{100}{85}$ **M1**	$510 = \frac{85}{100}\times$ original price **M1** Original price = $510\times\frac{100}{85}$

Proper presentation required.

Answer $ .....600..... [2]

---

4 Xavier's mass is x kg. His brother, Yuri weighs 5 kg lighter than him. Their father is twice of Yuri's mass.

(a) Write down and simplify an expression, in terms of x, for

(i) Yuri's mass,

(ii) their father's mass,

(iii) the sum of masses of Xavier, his brother and his father.

Answer (i) .....$x - 5$..... kg [1]

(ii) .....$2(x - 5)$..... kg [1]

(iii) .....$4x - 15$..... kg [1]

(b) Given that Xavier, Yuri and their father's combined mass is 165 kg.
Calculate the value of x.

$4x - 15 = 165$ **M1 (penalty for improper presentation)**
$4x = 180$ (accept as method)

Answer .....45..... [2]

---

5 **(a)** Given that $p = -2$, evaluate $\frac{1-2p}{1+p}$.

Answer .....-5..... [1]

(b) If $x = 3$, $y = -1$ and $z = -4$, find the value of $x(y-1)+z^2x$.

$3(-1-1)+(-4)^2(3)$ **M1 (award M1 if working not shown but answer correct)**

Answer .....42..... [2]

---

6 Simplify the following expressions.

(a) $5x - 2y - (x - 3y)$

Answer .....$4x + y$..... [1]

(b) $3(x-2y)-[5x-(-2x+y)]$
$= 3x-6y-[5x+2x-y]$ **M1 (expand either brackets correctly)**
$= 3x-6y-5x-2x+y$

Answer .....$-4x - 5y$ ..... [2]

---

7 Solve the following equations.

(a) $\frac{2x+7}{4}=12$

$2x+7=48$ **M1 (penalty for improper presentation)**

Answer .....$x = 20.5$ or $20\frac{1}{2}$..... [2]

(b) $\frac{3y-2}{4}-\frac{y}{2}=3$

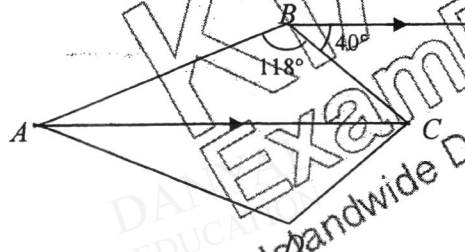
$\frac{3y-2}{4}-\frac{2y}{4}=3$

$3y-2-2y=12$

$y-2=12$

Answer .....$y = 14$..... [2]

8 The following diagram shows a kite $ABCD$. BP is parallel to AC, $\angle ABC = 118°$ and $\angle PBC = 40°$.



Find

(a) $\angle BCD$,

Answer .....80.....° [1]

(b) $\angle BAD$.

$\angle BAC = 180-118-40$ **M1 (angles used must be written)**

$= 22$

$\angle BAD = 2 \times 22$

Answer .....44.....° [2]

9 **(a)** Round off 0.001449 to 1 significant figure.

Answer .....0.001.....° [1]

(b) Express 27493000 correct to 2 significant figures.

Answer .....27 000 000.....° [1]

---

10 **(a)** Construct triangle ABC with $AB = 6$ cm, $BC = 7$ cm and $\angle ABC = 60°$. [2]

(b) By construction, mark the point M, which is equidistant from points A and B as wells from lines AB and BC. [2]

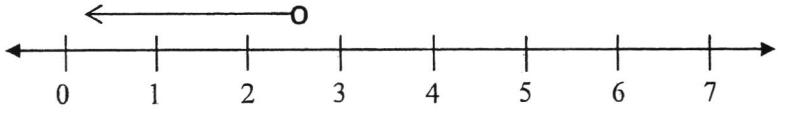
---

11 Given $4y + 7 < 17$.

(a) Solve the inequality and illustrate its solution on the number line given.

$4y < 10$

$y < 2.5$



[2]

(b) Hence, state the greatest value of y if

(i) y is an even number,

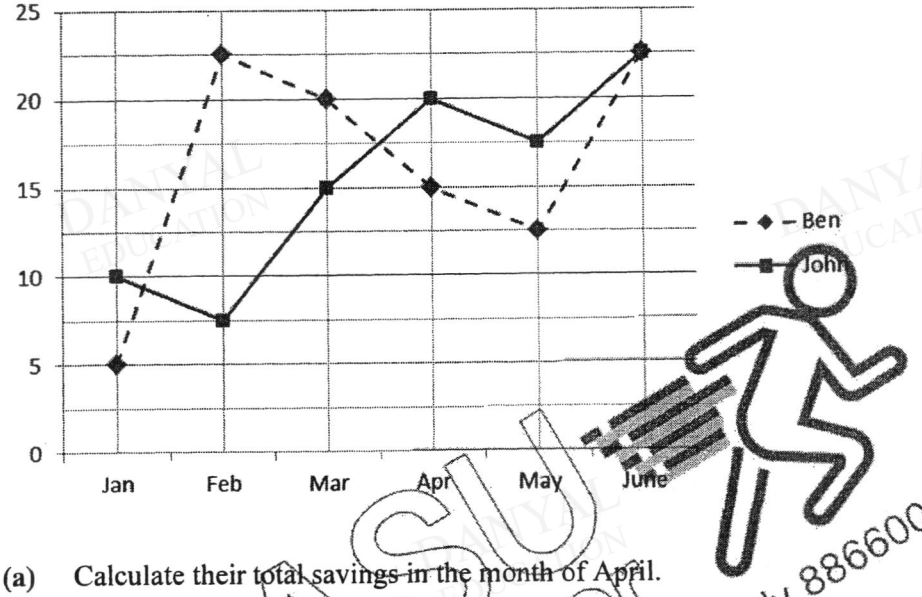
Answer .....2..... [1]

(ii) y is a multiple of 3.

Answer .....0..... [1]

12 Ben and John are classmates. The line graph below shows their savings over a period of 6 months. Their parents give them allowances of $5 a day only for school days.

Use the information provided to answer each of the following questions.



(a) Calculate their total savings in the month of April.

Answer $ .....35..... [1]

(b) On one of the months, the ratio of Ben's savings to John's savings was 3 : 1.
Which month was it?

Answer .....Feb..... [1]

(c) Suggest a reason for Ben's savings to increase by $17.50 between January and February.

Answer .....Chinese New Year Ang Pow.....|| Books and stationery are already bought in January || He decided to spend less on food OR any reasonable answer.. [1]

Cannot accept "he used less money/he spent less" must have reason for spending less.

(d) Their classmate, Adnan, claims that they are unlikely to save $22.50 each in the month of June.
Justify Adnan's claim.

Answer ...June is the month of holidays, only 1 week of school, that means very little pocket money to begin with (student must follow this thread of argument) ..... [1]

13 A survey was conducted to find out the number of books every pupil in a group of 60 pupils read on a particular week. The frequency table shows the results of the survey.

Number of books	0	1	2	3	4	5	6
Number of pupils	3	18	x	8	7	3	2

(a) Write down the value of x.

Answer .....19..... [1]

(b) The information will be represented in a pie chart. Calculate the angle of the sector in the pie chart that will represent the number of students who read 3 books in the week.

Angle = $\frac{8}{60} \times 360$ **M1**

Answer .....48.....° [2]

(c) Write the ratio of the number of pupils who read at least 1 book in two days to the number of pupils who read less than 1 book in two days in a week, in the simplest form.

1 book in 2 days = 3.5 books a week
At least 1 book in 2 days = at least 4 books a week
N(4 books and above) = 12
N(3 books and less) = 48 **M1 (for any lines on this thread shown)**

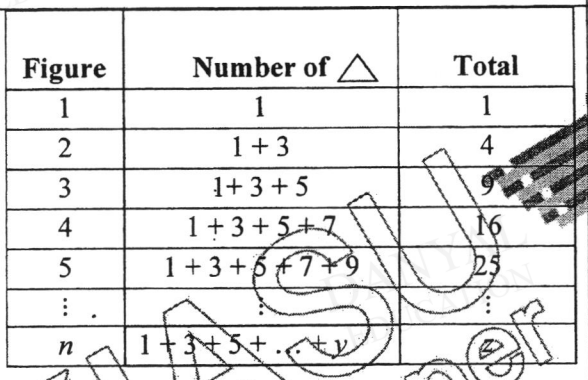
Answer .....1 : 4..... [2]

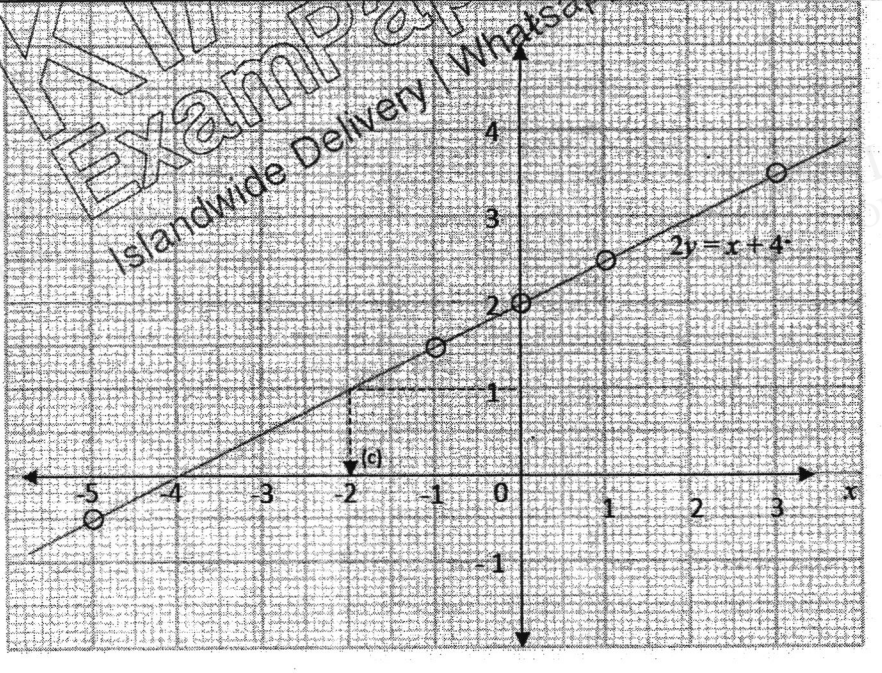
[END OF PAPER]

Woodlands Ring Secondary School
Secondary 1 Express Mathematics
Paper 2
End-of-Year Examination 2018

No	Working	Marks Allocation
1	100% ⟶ \$16.80 70% ⟶ $\frac{16.80}{100} \times 70$ = \$11.76 (2 d.p.)	M1 A1
2(a)	14 – (-8) = 22°C	B1
2(b)	22°C ⟶ 2640 8°C ⟶ $\frac{2640}{22} \times 8$ = 960 m Height from foot = 2640 – 960 = 1680 m ---------- **OR** 22°C ⟶ 2640 14°C ⟶ $\frac{2640}{22} \times 14$ ---------- = 1680 m ----------	M1 A1 M1 A1
3(a)	Finding H.C.F of 480, 720, 2460. 2 | 480 720 2460 2 | 240 360 1230 3 | 120 180 615 5 | 40 60 205 8 12 41 OR correct prime factorisation of all 3 numbers. No. of sets = 60	 M1 A1
3(b)	No. of items: 8 + 12 + 41 = 61	B1 [Allow ECF -> 3660 ÷ their HCF]
4(a)	$6p^2q + 9pq^2r + 12pqr$ $= 3pq(2p) + 3pq(3qr) + 3pq(4r)$ $= 3pq(2p + 3qr + 4r)$	M1 [or division by common factors] A1 Allow B2 for students who can factorise mentally and directly
4(b)	$(1 - 2y)(x + 2)$	B1

No	Working	Marks Allocation
5	$\frac{y-3}{4}-\frac{y+5}{3}+1$ $=\frac{3(y-3)}{12}-\frac{4(y+5)}{12}+\frac{12}{12}$ $=\frac{3(y-3)-4(y+5)+12}{12}$ $=\frac{3y-9-4y-20+12}{12}$ $=\frac{-y-17}{12}$	M1 – Changing to common denominator for at least 2 of the 3 fractions (Numerators must be correct – factorised or expanded form) M1 – Correct expansion of both numerators (Separate fractions or combined fractions) A1
6(a)	Area of garden = Area of trapezium – Area of semicircle $=\frac{1}{2}(20+40)(25)-\frac{1}{2}(10^2)(3.142)$ $=750-157.1$ $=593\ m^2$ (3 s.f.)	M1 – Correct method used to find area of trapezium with correct values substituted in A1
6(b)	Length of arc $=\frac{1}{2}\times 3.142\times 20$ $=31.42$ Perimeter of garden = 31.42 + 30 + 40 + 27 = 128 m (3 sf.)	M1 A1
7(a)	Time taken $=\frac{1.7}{8.5}h$ $=0.2\ h=12\ min$ 06 45 . [12 min] 06 57 [20 min] 07 17 Time he left checkpoint = 07 17 or 7.17 am.	M1 A1
7(b)	Time taken (2nd part) $=\frac{4.1-1.7}{9.6}h$ $=0.25\ h$	M1 – Award if their "0.2h" from

No	Working	Marks Allocation
	Average speed $= \dfrac{4.1}{0.2+0.\dot{3}+0.25}$ $= 5.23\ km/h$ OR $5\frac{11}{47}$ km/h	part(a) is used A1
8(a)	Exterior angle $= 180° - 156° = 24°$ (adj. ∠s on st. line) Number of sides, n $= \dfrac{360}{24} = 15$	B1
8(b)	$\angle BCA = \dfrac{180° - 156°}{2} = 12°$ (base ∠s of isos. Δ) $\angle ACD = 156° - 12° = 144°$	M1 A1
8(c)	$\angle MDA = 180° - 156° = 24°$ (int. ∠s, $BC \parallel AD$)	B1
9(a)	 $x = 25$	B1
9(b)	$y = 2n - 1$ $z = n^2$	B1 B1
9 (c)	No $\sqrt{3365} = 58.00086$, which is not a whole number OR $\sqrt{3365}$ does not give a whole number as answer.	A1 M1
10(a)	$x = 180 - 34 - 34 = 112$ (Sum ∠s in a Δ)	B1 for answer, B1 for reason
10(b)	$y = 32$ (Alt. ∠s)	B1 for answer, B1 for reason
10(c)	$\angle PQR = 180 - 84 - 34 = 62$ (Sum ∠s in a Δ) $z = 360 - 62 = 298$ (∠s at a pt)	B1 for answer, B1 for reason

No	Working	Marks Allocation
11(a)	Subtotal: \$124.30 Service charge = $\frac{10}{100} \times 124.30$ = S\$12.43 (2 d.p.)	M1 – Award even if their sub total is wrong A1
11(b)	Subtotal (including Svc charge) = 124.30 + *Ans 11(a)* = 136.73 Net total (including GST) = 1.07 × (124.30 + *Ans 11(a)*) = 146.3011 S\$2.8542 = ₱100 S\$146.3011 = $\frac{100}{2.8542} \times 146.3011$ = ₱5125.818093 The meal is cheaper in Philippines. Percentage difference = $\frac{5125.818093-5105}{5125.818093} \times 100 = 0.406\%$	---------- M1 ---------- M1 ₱100 = S\$2.8542 ₱5105 = $\frac{2.8542}{100} \times 5105$ ---------- M1 S\$145.70691 The meal is cheaper in Philippines. Percentage difference = $\frac{146.3011-145.70691}{146.3011} \times 100 = 0.406\%$ A1 A1
12(a)	$p = 2$	B1
12(b)		All points plotted correctly [B1] Straight line drawn **AND** Correct scale and axes labelled [B1]
12(c)	$x = -3$	B1 – Only award if dotted line is shown on graph paper.

12(d)	Yes.	A1
	$2(102) = 200 + 4$ $204 = 204$ (200, 102) satisfy the equation $2y = x + 4$.	M1