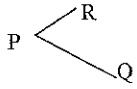


Section A

Each question has a value of one mark.

Question	Answer
1. 0.034×100	
2. $4^8 \div 4^2$ (leave answer in index form)	
3. Find the perimeter of a square with sides 8cm	
4. Complete the sentence: Supplementary angles add to.....	
5. Calculate $6.04 + 7.1 - 2.05$	
6. What is the value of the 8 in 0.0189?	
7. Simplify the fraction $\frac{85}{7}$	
8.  Name this acute angle	
9. Express 0.57954 correct to 1 decimal place.	
10. What are the prime factors of 15?	
11. Find $\frac{2}{3}$ of 2 hours in hours and minutes	
12. $(0.5)^2$	
13. Find p if $p - 5 = 3$	

Name: _____

Teacher: _____



MORIAH COLLEGE

Year 7 MATHEMATICS

Yearly Examination, December 1999

Date: Friday, 3rd December

Time Allowed: 1.5 Hours

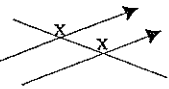
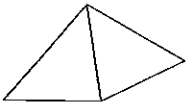
Teachers: E. Apfelbaum, D. Dimos, N. Franks,
M. Khoury, T. Rabinowitz

Special Instructions:

- Attempt All Questions
- Answer the Questions in the Spaces Provided.
- Working must be shown in Sections B, C and D
- Calculators may not be used

Marks

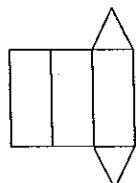
Section A	Section B	Section C	Section D	Total

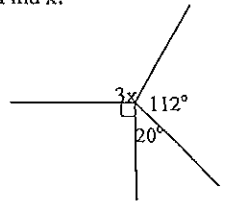
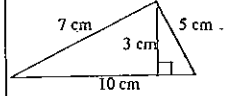
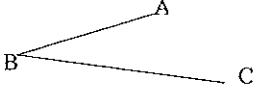
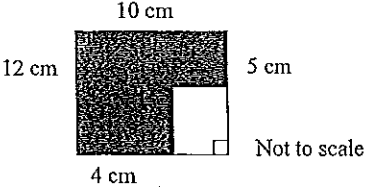
Question		Answer
14.	Find 8.02×0.2	
15.	$5 - 3\frac{1}{3}$	
16.	Express 2 348 ml in Litres?	
17.	 <p>The angles marked with an x are known as _____ angles</p>	
18.	True or false: $7 \times -3 \leq -18 - 2$	
19.	Evaluate $6 + 5 \times 9 - 2$	
20.	<p>Below is the front view of a square pyramid. How many edges has the whole square pyramid?</p> 	

End of Section A

Section B

Show all working in the spaces provided:

1.	<p>The net below will form what solid?</p>  <p>_____</p> <p>_____</p> <p>Draw a diagram of this solid.</p>	2.	<p>If $m = -1$ and $n = 3$ find:</p> <p>a) $n^2 + 2m$</p> <p>_____</p> <p>b) $5mn$</p> <p>_____</p>
3.	<p>List all the factors of</p> <p>a) 12 _____</p> <p>b) 30 _____</p> <p>c) What is the highest common factor of 12 and 30?</p> <p>_____</p>	4.	<p>List the first 5 Multiples of :</p> <p>a) 12 _____</p> <p>_____</p> <p>b) 30 _____</p> <p>_____</p> <p>c) What is the lowest common multiple of 12 and 30?</p> <p>_____</p>
5.	<p>$1\frac{1}{5} \times 3\frac{1}{3}$</p> <p>_____</p> <p>_____</p> <p>_____</p>	6.	<p>$3\frac{3}{4} \div 4\frac{1}{6}$</p> <p>_____</p> <p>_____</p> <p>_____</p>
7.	<p>Change to a decimal :</p> <p>$4 + \frac{3}{100} + \frac{6}{1000}$</p> <p>_____</p>	8.	<p>A student gains 45 marks out a possible 80. Write this as a fraction in its simplest form.</p> <p>_____</p> <p>_____</p>

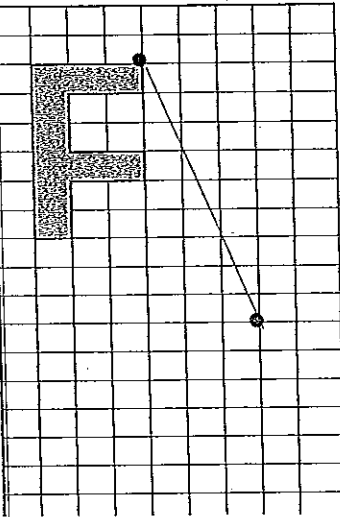
<p>9. Find x:</p>  <p>_____</p> <p>_____</p>	<p>10. </p> <p>a) Find the perimeter of this triangle.</p> <p>_____</p> <p>b) Find the area of the triangle:</p> <p>_____</p>
<p>11. With your protractor, measure the angle below and hence give the exact value of the reflex angle ABC.</p> 	<p>12. Rearrange the following decimals in ascending order:</p> <p>6.066, 6.606, 6.0666, 6.1606</p> <p>_____</p>
<p>13. Find the next 3 terms of the following number patterns:</p> <p>a) 16, 11, 6, 1</p> <p>_____</p> <p>_____</p> <p>b) 4, 20, 100, 500</p> <p>_____</p> <p>_____</p>	<p>14. Calculate the area of the shaded region:</p>  <p>Not to scale</p> <p>_____</p> <p>_____</p>
<p>15. With your compass and ruler, draw a triangle 3x4x5 cm in the space below.</p> <p>_____</p> <p>_____</p> <p>_____</p>	

Section C

Show all working in the spaces provided.

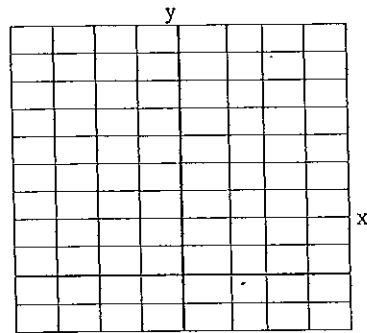
<p>1. Evaluate $2\frac{1}{2} + 3\frac{3}{4} \times 1\frac{1}{5}$</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>2. I give John $\frac{3}{4}$ of my marbles. I have 14 left. How many did I have to start with?</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>3. Express $\frac{2}{5}$ as a decimal</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>4. Evaluate $\sqrt[3]{\frac{11}{25}}$</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>5. Simplify $3(4x^3y^5)^2$</p> <p>_____</p> <p>_____</p>	<p>6. Simplify $5f^3g^5 + 15f^0g^4$</p> <p>_____</p> <p>_____</p>
<p>7. Write an equation for: "Subtract -3a from the product of 2a and 5 and the result is 26" and solve the equation.</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>8. Evaluate $3 - [(2-5) \times 4 + 5]$</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>9. Solve the equation:</p> $\frac{4m}{3} + 3 = 11$ <p>_____</p> <p>_____</p> <p>_____</p>	<p>10. Solve the equation:</p> $5(2a - 3) - 3(a + 4) = 1$ <p>_____</p> <p>_____</p> <p>_____</p>

11. Translate the shape below to the point indicated.

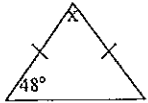


12. If $6 - x = y$ fill in the box below and plot the points on the number plane

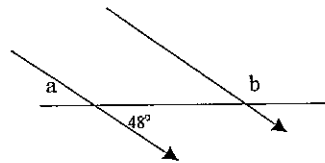
x	-2	-1	0	1	2	3
y						



13. Find x

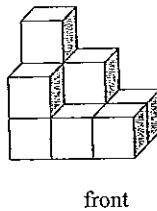


14. Find a and b.



15. Sketch the view of this solid from:

- a) the back
- b) the left side

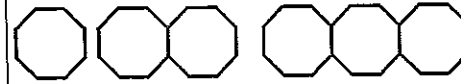


End of Section C

Section D.

Show all working in the spaces provided.

1. Octagons have been used form the pattern below. Draw in the next pattern.



Fill in the box below

Octagons (O)	1	2	3	4	5	10	20
Number of sides (S)	8	15					

Using O for number of octagons and S for the number of sides, find the general rule that can be used to find the number of sides for O Octagons

2. a) Find $0.9 \div \frac{1}{2}$

b) Find $\frac{2}{1 - \frac{2}{3}}$

3. A jug holds 2.5 litres. How many 250 ml glasses can be filled from this jug?

4. Graham delivers brochures. He is paid 20 cents for every 100 brochures he delivers. How much is he paid for delivery of 150 000 brochures?

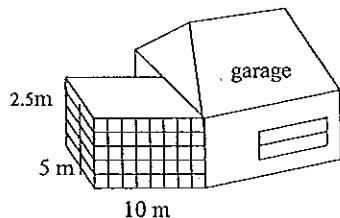
5. The perimeter of a rectangle is 32 cm and its area is 28 cm^2 . Find the dimensions of the rectangle:



6. Five drops of these eye drops make 1 ml. I put one drop in each eye every morning. How long will it take to empty the 14 ml bottle?



7. A farmer fences off a rectangular area on one end of his garage. It measures 10 m by 5 m as shown in the diagram. The wire fencing is 2.5 m high. What is the area of wire fencing?

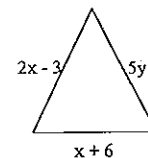


8. Find the missing fraction:

$$\left(1 + \frac{d}{p} \times \frac{9}{7}\right) \div 2 = 1$$

9. An equilateral triangle has lengths as shown.

Find the value of y



10. Box A contains only 50c coins

Box B contains only 20c coins.

The amount of money in A is \$1.30 more than the amount in Box B. If there are 19 more coins in Box B than in Box A, how many coins are there altogether?

11. Water is leaking from a tank at a constant rate.

At 2pm the tank is $\frac{3}{4}$ full.

At 3pm the tank is $\frac{1}{8}$ full.

At what time is the tank empty?

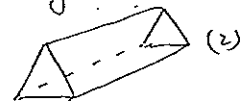
End of Section D

Section A. [20]

1. 3.4
2. 4⁶
3. 32cm
4. 180°
5. 11.69
6. $\frac{8}{1000}$
28 thousandth.
7. 12 $\frac{1}{2}$
8. LRPO or LQPR
9. 0.6
10. 3, 5,
11. 1hr 20min.
12. 0.25
13. p = 8
14. 1604
15. 1 $\frac{2}{3}$
16. 2.348L.
17. corresponding angles.
18. T
19. 49
20. 8.

Section B. [30]

1. Triangular Prism



2. a) 9-2 = 7 (2)
b) 45
3. a) 1, 2, 3, 4, 6, 12 (3)
b) 1, 2, 3, 5, 6, 10, 15, 30.
c) 6.

4. a) 12, 24, 36, 48, 60.
b) 30, 60, 90, 120, 150
c) 60. (3)
5. $\frac{12}{3} \times \frac{10}{3} = 4$ (2)
6. $\frac{15^3}{2^4} \times \frac{6^3}{25^5} = \frac{9}{10}$ (2)
7. 4.036 (1)
8. $\frac{41}{80} = \frac{9}{16}$ (1)
9. $3x + 132 = 270$
 $3x = 138$
 $x = 46$. (2)
10. a) 22 cm (2)
b) 15cm²
11. $360^\circ - 24^\circ = 336^\circ$. (2)
12. 6.066, 6.0666, 6.1606
6.606. (2)
13. a) -4, -9, -14 (1)
b) 2500, 12500, 62500 (1)
14. $120 - 7 \times 6 = 78$. (2)
15. (2)

Section C. [30]

1. 7 (2)
2. $\frac{1}{4} = 14$
 $\therefore 14 \times 4 = 56$ (1)
3. 08 (1)
4. $\sqrt{\frac{36}{21}} = \frac{1}{5}$ (1)
5. $3 \times 16x^6 y^{10} = 48x^6 y^{10}$ (2)
6. $\frac{4^3}{3}$ (1)

Section C cont.

7. $(2a \times 5) - (-3a) = 26$
 $10a + 3a = 26$. (2)
 $a = 2$.
8. $3 - [(-3) \times 4 + 5]$
 $= 3 - [-12 + 5]$
 $= 3 - -7$ (2)
 $= 10$.
9. $\frac{4m}{3} = 8$
 $4m = 24$ (2)
 $m = 6$
10. $10a - 15 - 3a - 12 = 1$
 $7a = 28$
 $a = 4$ (3)
11. (1)
12.

x	-2	-1	0	1	2	3
y	8	7	6	5	4	3
13. $180 - 2(48) = 84^\circ$. (2)
14. a = 48° (1)
b = 132° (2)
15.
back (2)

left side

Section D

1. Number of Octagons
 $= 7 \times \text{number of sides} + 1$

0	1	2	3	4	5	10	20
5	8	15	22	29	36	71	141
2. (a) $0.9 \times \frac{2}{7} = 1.8$
(b) $2 \div \frac{1}{3} = 2 \times \frac{3}{1} = 6$
3. $2.5L \div 250\text{mls} = 10$ glasses
4. $1500 \times 20\text{cents} = \300
5. 14 by 2.
6. 1ml = 5 drops
14mls = 70 drops
2 drops a day \Rightarrow 35 days
7. $(10 \times 2.5) + (10 \times 2.5) + (5 \times 2.5) = 62.5 \text{ m}^2$
8. $1 + \left(\frac{d}{p} \times \frac{9}{7}\right) = 1$
 $\therefore \frac{d}{p} \times \frac{9}{7} = 1$
 $\therefore d = 7 \quad p = 9$.

9. $2x - 3 = x + 6$
 $\therefore x = 9$
Also: $5y = x + 6$
 $\therefore 5y = 15$
 $y = 3$

10. Let x = no. of coins in Box A
Let y = no. of coins in Box B
 $\therefore y = x + 9$. (1)
But also:
 $50¢ \times x = \$1.30 + 20¢ \times y$. (2)
 \therefore
~~50x~~
 $50x = 130 + 20(x + 9)$
 $50x = 130 + 20x + 180$
 $30x = 510$
 $x = 17 \quad y = 36$
11. $\frac{3}{4} - \frac{1}{8} = \frac{5}{8}$ is 1 hour.
 $\therefore \frac{1}{8} = \frac{60}{5} = 12$ mins
 \therefore Empty last $\frac{1}{8}$ of the tank in a further 12 mins
 \therefore Time = 3:12 pm.