Year 7 Mathematics 2012

Geometry and Time Test   **Time allowed: 60 minutes**
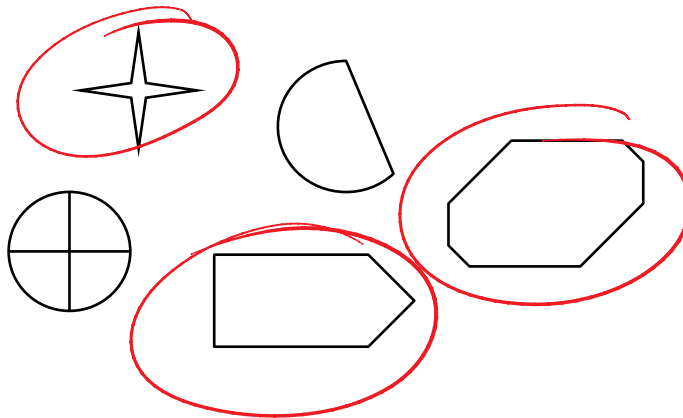
Total marks: 70   Name_____

Show your working for any question worth more than one mark.

1. Circle all the polygons shown below:

[2]

√ One or Two polygons circled
(& no non-polygons circled)

√√ all correct

2. Connect the polygon with the correct picture by drawing a line.   [3]

√√√ all correct

√√ 2 round the wrong way

√ 2 pairs correct

⑤

3. Name four types of quadrilaterals. [2]

✓ 1 mistake or omission

✓✓ all correct

_____Rhombus_____   _____Trapezium_____

_____Square_____   _____Rectangle_____
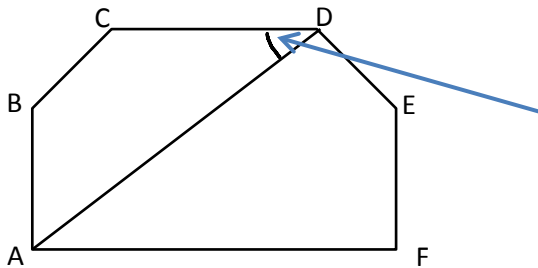
Kite   Parallelogram

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4. Draw an angle of 112° **and** state the type of angle
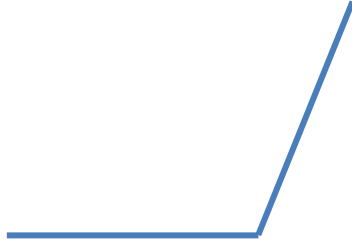
✓ ± 1°

Answer (7) ___Obtuse___ ✓ [2]

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5. Look at the diagram below and answer the following questions.

(a) Using three point notation, name the angle indicated   Answer (a) ___CÔA___ ✓ or <ADC [1]
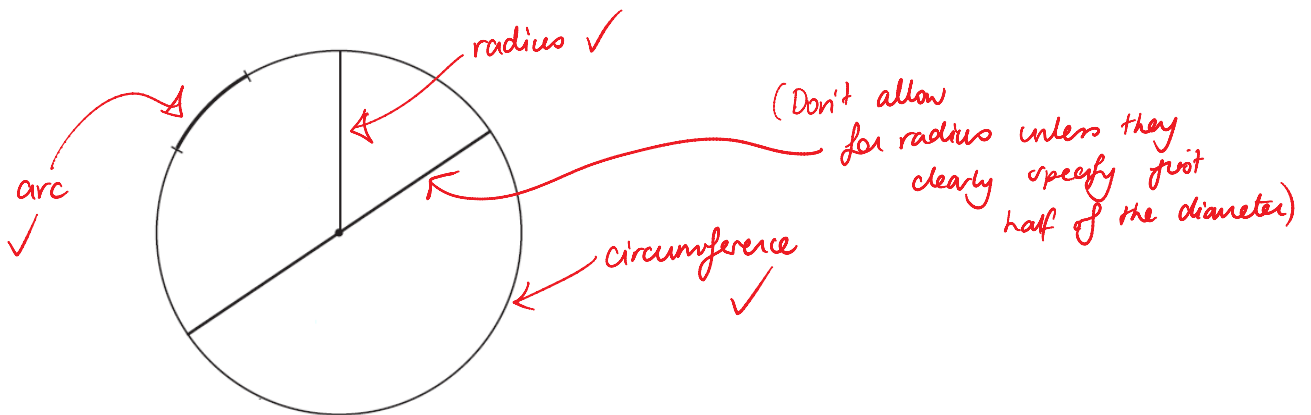
(b) Measure the angle DAF and state what type of angle it is   Measurement: ___37° ± 1___ ✓

Type of angle: ___acute___ ✓ [2]

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6. On the circle shown below label the radius, arc, and circumference. [3]

radius ✓

arc ✓

circumference ✓

(Don't allow for radius unless they clearly specify just half of the diameter)

⑩

7. Answer the following questions as True (T) or False (F) [5]

(a) A regular polygon has all sides and angles the same _____T__ ✓

(b) A right angle triangle can also be isosceles _____T__ ✓

(c) A polygon must be regular _____F__ ✓

(d) A rhombus is a regular quadrilateral _____F__ ✓

(e) A trapezium has two pairs of parallel sides _____F__ ✓

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8. Construct (use a compass to draw) a circle below with a diameter of 6 cm. [2]
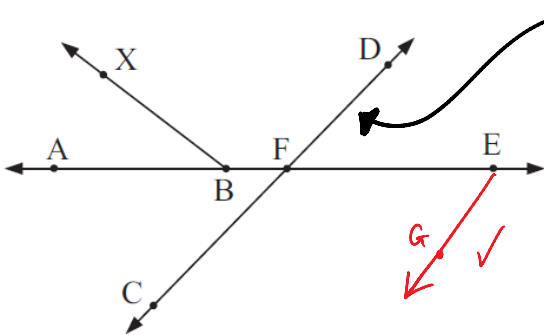
✓ circle clearly drawn with a compass

✓✓ diameter of 6cm

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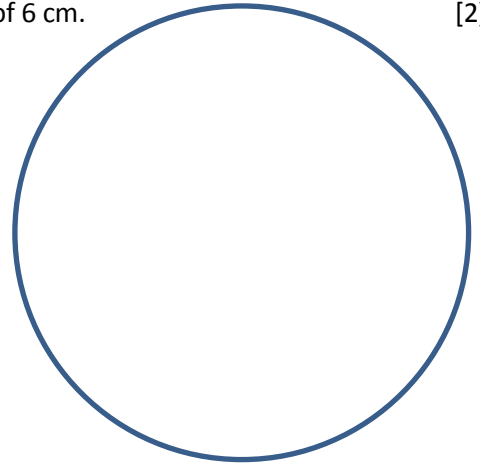
9. Look at the diagram below and then answer the questions. [4]

Must have correct symbol above letters

a) Name the line indicated _____$\overleftrightarrow{CD}$ ✓_____

b) Name the intersection of $\overrightarrow{AE}$ and $\overrightarrow{CD}$ _____F ✓_____

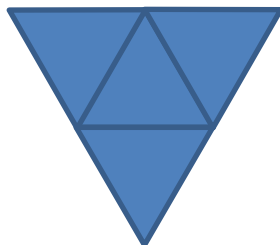c) Name a line segment _____$\overline{FE}$ (any) ✓_____

d) Using a ruler draw a new line to create ray $\overrightarrow{EG}$

Must have arrow at the end

G ✓

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10. Using a ruler, draw the net for a tetrahedron (triangular based pyramid) [2]
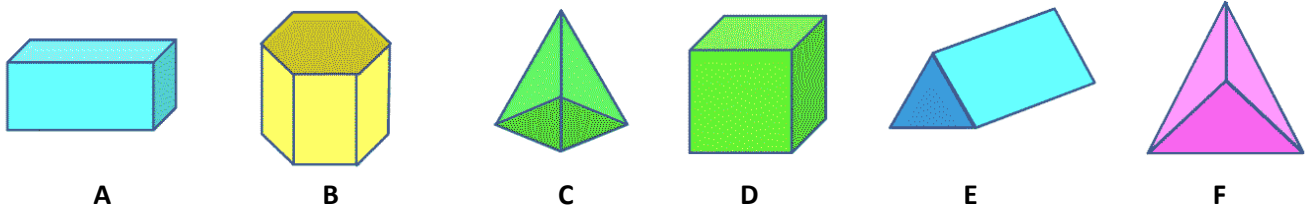
✓ good attempt
(must have 4 triangles
but may not be the
right size)

✓✓ reasonably well drawn,
would fold to form a pyramid

⑬

11. Answer the questions below about the solids shown:

A   B   C   D   E   F

a) Name solid B   (Hexagon-based prism)   Hexagonal Prism ✓ [1]

b) Name solid E   Triangular Prism ✓ [1]

c) Which solid has eight faces?   B ✓ [1]

d) Which solid has nine edges?   E ✓ [1]

e) Write down the number of Edges, Vertices and Faces of Solid F

Edges   6 ✓ [1]

Vertices   4 ✓ [1]

Faces   4 ✓ [1]

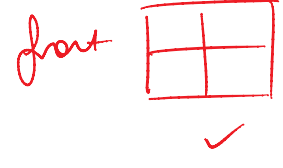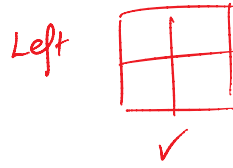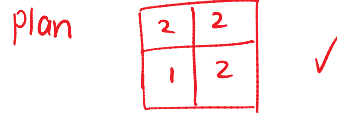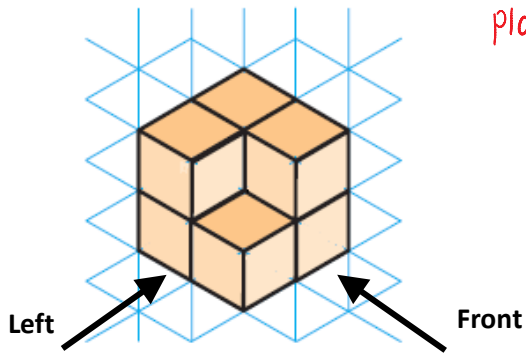12. (a) Which two solids have been joined to form the solid shown below?   [2]
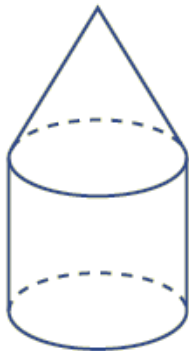
Solid 1: Cone (circular pyramid) ✓

Solid 2: Cylinder (circular prism) ✓

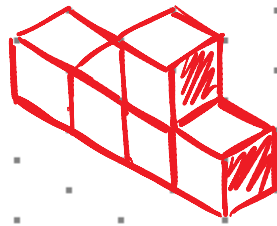(b) In the space provided draw the cross section of the solid if it was cut in half vertically   [1]

✓

10
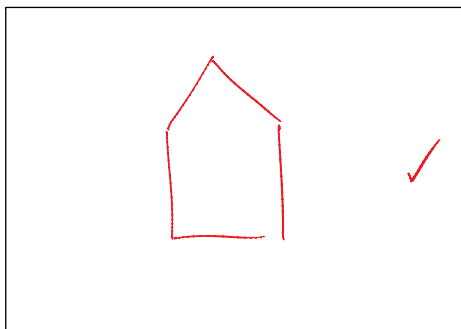
13. Draw the front, left and plan view of the isometric solid shown [3]

Left   Front

Plan

2	2
1	2

✓

Left ⊞ ✓

front ⊞ ✓ [3]

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14. Draw an isometric projection of the following solid on the isometric grid below, the darker edge should be closest to you.
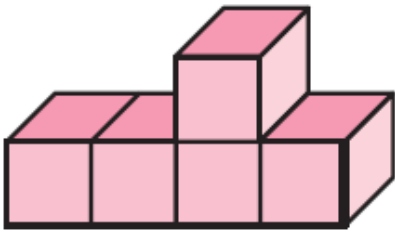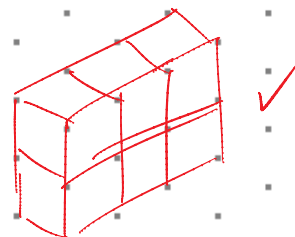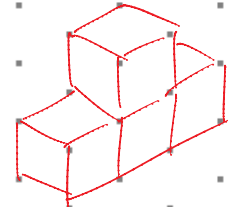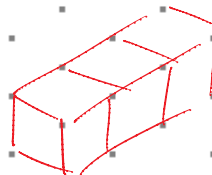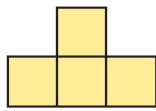
✓ correct solid   ✓✓ correct orientation

[2]

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15. Draw **three** different solids which would give the top view shown below on the isometric paper provided:
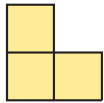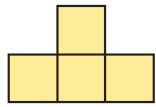
Top View:

✓   ✓   ✓ [3]

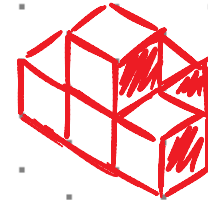16. Draw the 3-dimensional solid which would have the following views on the isometric paper provided.

top

right

front
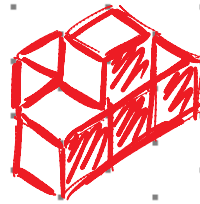
√ one view works

√√ minor mistake

√√√ all correct

[3]

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17. Fill in the following questions on time.

a) Rewrite 9:21 pm in 24-Hour time. *(must have hours)* __21:21 hours__ √ [1]

b) Rewrite 0740 hours in standard 12-Hour time. *(must have am)* __7:40 am__ √ [1]

c) How many seconds in 4 ½ minutes? __270 seconds__ √ [1]

d) Write the time shown on the clock in 24- hour time __0820 hours__ √ [1]

(must have 4 digits & hours)

Morning

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18. Using the words in the box below, fill in the gaps.

366	Seconds	100	Week
Fortnight	Century	1000	Day
365	1,000,000	Month	356

(a) There are 2 weeks in a __Fortnight__. √ [1]

(b) 24 hours are in a __day__. √ [1]

(c) __365__ days are in a non-leap year. √ [1]

(d) __1000__ years are in a millennium. √ [1]

(e) 60 __seconds__ in a minute. √ [1]

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19. Write the number of **hours** and **minutes** between the times shown on the two clocks. Show your working.

8:10 ⟹ 9:30 √

50 + 30

Answer: __80 minutes__ [2]

1 hr 20 minutes √

(allow answer in minutes only)

A.M.   A.M.

⑭
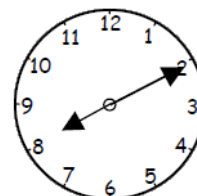
20. Study the Train Timetable below and answer the corresponding questions.

CARLINGFORD-WYNYARD TRAIN TIMETABLE

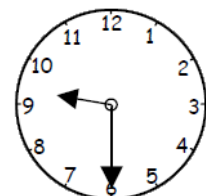|	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.
Carlingford	3.32	4.11	4.45	5.23	5.55	6.26	6.52
Telopea	3.34	4.13	4.47	5.25	5.57	6.28	6.54
Dundas	3.36	4.15	4.49	5.27	5.59	6.30	6.56
Rydalmere	3.38	4.17	4.51	5.29	6.01	6.32	6.58
Camellia	3.40	4.19	4.53	5.31	6.03	6.34	7.00
Rosehill UA	3.42	4.21	4.55	5.33	6.05	6.36	7.02
Clyde ....arr	3.45X	4.24X	4.58X	5.36X	6.08X	6.39X	7.05
dep	3.51	4.26	5.00	5.48	6.18	6.48	7.06
Lidcombe.....arr							
dep	3.57	4.31	5.06	5.54	6.24	6.54	7.12
Strathfield....arr	4.02	4.36	5.11	5.59	6.29	6.59	7.18X
dep	4.03	4.37	5.12	6.00	6.30	7.00	7.23
Central........arr	4.17	4.50	5.26	6.14	6.44	7.14	7.36
dep	4.18	4.51	5.27	6.15	6.45	7.15	7.37
Townhall	4.21	4.54	5.30	6.18	6.48	7.18	7.40
Wynyard	4.24	4.57	5.33	6.20	6.50	7.20	7.42

a) If I catch the 4:17 pm train at Rydalmere, what time will I arrive at Central? _____4:50 pm_____ ✓ [1]

b) What is the latest time I could catch the train from Dundas in order to arrive at Lidcombe by 6:00 pm

_____5:27 pm_____ ✓[1]

c) If I miss the 5:00 pm train from Clyde, what would be the earliest time that I could arrive at Wynard?

_____6:20 pm_____ ✓ [1]

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21. Study the timeline below of Sarah's life and answer the corresponding questions
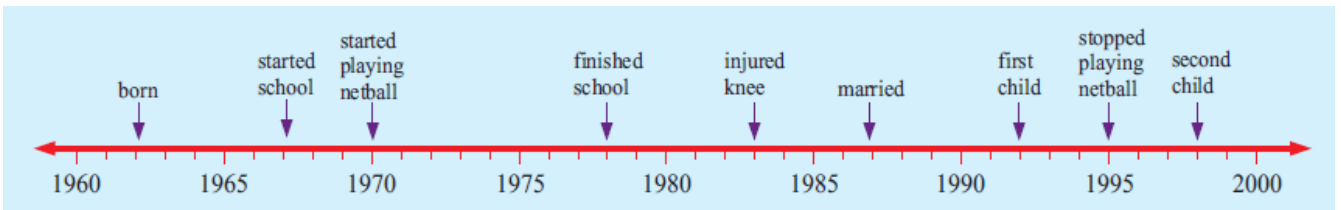
(a) What year did Sarah start school? _____1967_____ ✓ [1]

(b) How old would Sarah be now (in 2012)? _____50_____ ✓ [1]

(c) What is the age difference between Sarah's two children? _____6 years_____ ✓ [1]

(must say years)

⑥

22. The map below shows the different time zones in Canada. Use the map to answer the following questions.

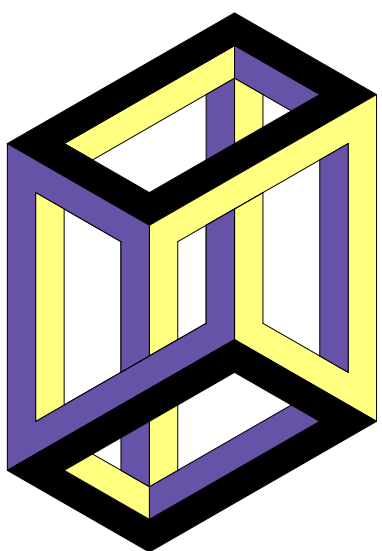| Pacific	Mountain	Central	Eastern	Atlantic	Nfld
12:00	1:00	2:00	3:00	4:00	4:30
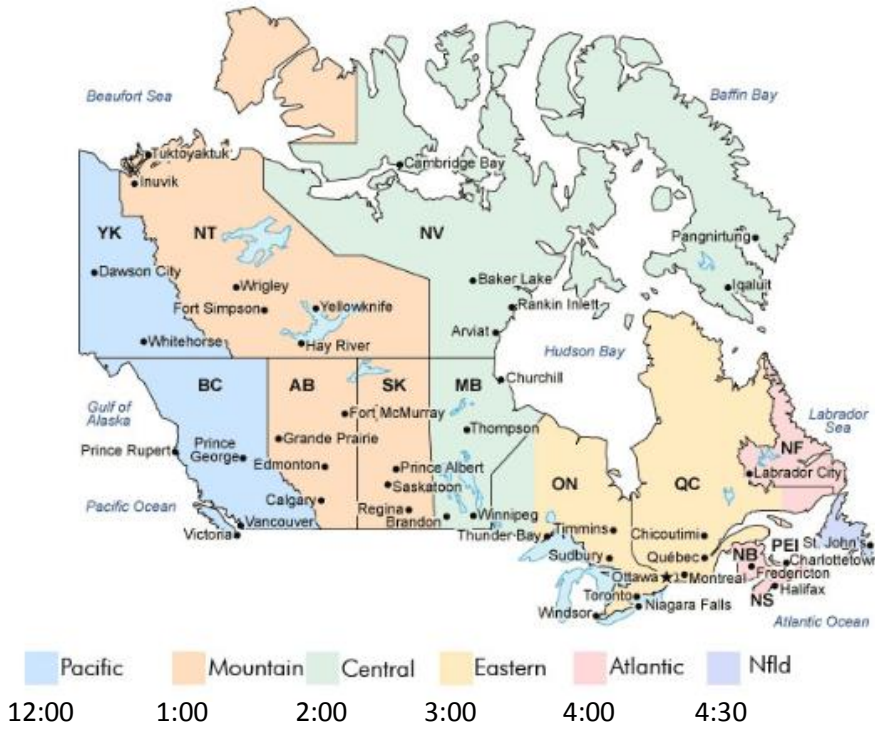
(a) How many time zones are there in Canada?   _____6_____ [1]

(b) The time is 3 pm in Wrigley and Sophie wants to ring her friend in Quebec, what time will it be there?

_____5 pm_____ [1]

(c) Graham is flying from Dawson City to Winnipeg. He leaves Dawson City at 11:00 am in the morning and the flight takes 2 hours. What time will it be (in Central Time) when he lands in Winnipeg? (make sure you show your working)

11 + 2 for flight ⇒ 1 pm
+2 for time diff   _____3pm_____ [2]

Extra if finished: Try copying the following impossible solid!

④

1