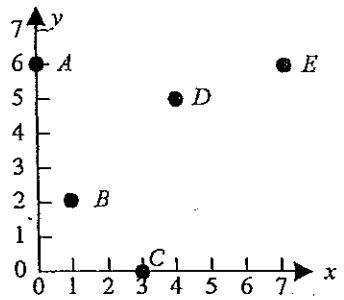
Year 7 - Half Yearly Examination

Name: _____

Time Allowed: 60 minutes

Strand: Number (Allow approx. 30 minutes)

1. Write down the letter used to name each of these points:



(a) (3, 0) _____

(b) (4, 5) _____

(c) (1, 2) _____

(d) (0, 6) _____

(e) (7, 6) _____

2. Use a directed number to represent "60m below sea level."

_____

3. Write a directed number to show the change described by "I was 12 km from home and now I am 8 km from home."

_____

4. Graph the following on a number line:

$\{-2, 1\frac{1}{2}, 3\}$

_____

5. Arrange {6, -3, -5, 4} in order from smallest to largest.

_____

6. $-6 + 9 =$

_____

7. $-4 - (-2 + 6) =$

_____

8. $7 - -9 =$

_____

9. $-11 \times 4 =$

_____

10. $-8 \times -7 =$

_____

11. $(-9)^2 =$

_____

12. $-24 \div 6 =$

_____

13. $-96 \div -12 =$

_____

14. $13 - 12 \div 4 + 4 =$

_____

15. $(4 - 13) \times (-2 + 9) \div 3$

_____

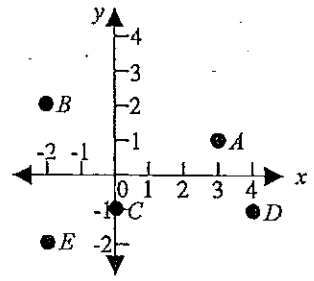
16. Write the next **3** numbers in the number pattern; 5, 3, 1,…

_____

17. Two numbers multiply to make 15 and add to make -8. What are the 2 numbers?

_____

18.



(a) A = (_____, _____)

(b) C = (_____, _____)

(c) E = (_____, _____)

(d) _____ = (4, -1)

(e) _____ = (-2, 2)

19. Convert the following into standard numbers:

(a) VII _____

(b) CLXIII _____

(c) DCCIX _____

(d) MDV _____

(e) $\overline{IV}$ CXCIX _____

20. Convert the following to Roman Numerals:

(a) 37 _____

(b) 645 _____

(c) 1979 _____

(d) 214 726 _____

21. Write twenty-seven million, nine hundred and fourteen thousand, six hundred and eighty-three as a numeral.

_____

22. Write 47 285 in words.

_____

_____

_____

23. What is the value of the 5 in 785 943?

_____

24. Express 20000 + 4000 + 900 + 50 + 1 as a basic numeral.

_____

25. Arrange in ascending (lowest to highest) order:

52 398, 7 610, 300 477, 19 342

_____

_____

26. Write (9 × 1000 000) + (3 × 100 000) + (8 × 10 000) + (1 × 100) + (5 × 10) + (7 × 1) as a basic numeral.

_____

27. Write 9 306 in expanded form (same form as question 26)

_____

_____

28. Insert sets of brackets to make the following statement true:

$$6 + 2 \times 8 - 5 = 24$$

29. Is $32.4 > 32$?

30. Write 3 Even Numbers

31. Write 3 Triangular Numbers

32. Write 3 Square Numbers

33. List all the factors of 28.

34. Find the Highest Common Factor (HCF) of 28 and 32.

35. List the first 4 multiples of 9.

36. Find the Lowest Common Multiple (LCM) of 9 and 12.

37. List all the prime numbers between 10 and 30.

38. List all the composite numbers between 5 and 17.

39. Complete a factor tree for:

100

40. Express 100 as a product of its prime factors.

41. $\sqrt{81} =$

42. $\sqrt[3]{64} =$

43. Express $3 \times 3 \times 3 \times 3$ in index form.

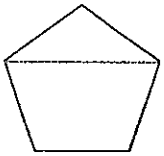
Strand: Geometry (Allow approx. 15 minutes)

1. Name two shapes that have no straight sides.

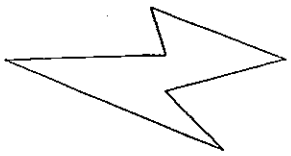
2. How many sides does a hexagon have?

3. Sketch a trapezium.

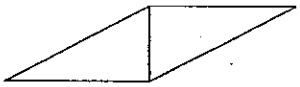
4. The following pentagon has been formed by combining two shapes. What are the shapes?



5. Name the following shape:

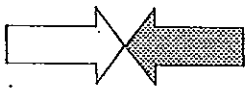


6. Name all the shapes you see in the following diagram:

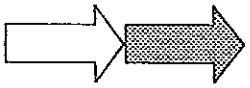


7. Name the transformation that has taken place in each of the following diagrams:

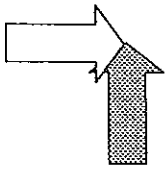
(a)



(b)

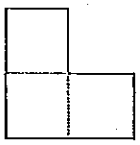


(c)

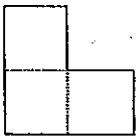


8. Perform the following transformations on the diagram below:

(a) Translate 3 cm to right and 1 cm down.

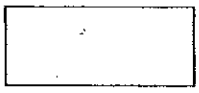


(b) Reflect on the right hand edge.

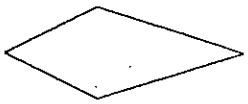


9. Show any axes of symmetry on the following shapes:

(a)



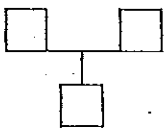
(b)



(c)

10. Which of the following shapes have point symmetry? If they do, write down what order of point symmetry they have.

(a)

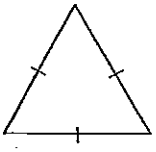


Circle - Point Symmetry?

YES NO

Order (if any) _____

(b)

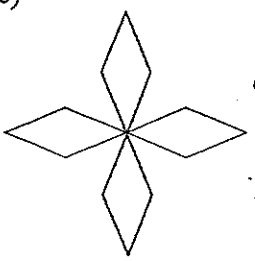


Circle - Point Symmetry?

YES NO

Order (if any) _____

(c)

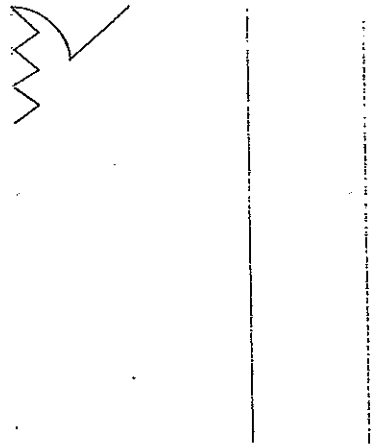


Circle - Point Symmetry?

YES NO

Order (if any) _____

11. Complete the following tessellation:



Strand: Measurement (Allow approx. 5 minutes)

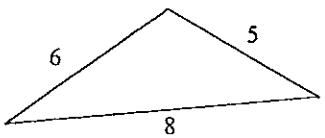
1. 8 m = _____ cm.

2. What instrument would be used to measure the width of a box of cereal?

_____

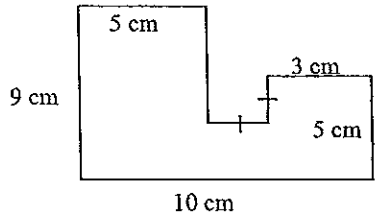
3. Find the length of the fence around the following paddocks:

(a)



_____

(b)



_____

4. How many days in a fortnight?

_____

5. 120 min = _____ hours.

Strand: Data (Allow approx. 5 minutes)

1. Use these numbers to answer the following questions:

23, 16, 20, 18, 24, 19, 20

(a) Arrange the numbers from smallest to largest.

_____

(b) What is the middle number after they have been arranged from smallest to largest?

_____

(c) What number appears most often?

_____

(d) What is the difference between the highest number and the lowest number?

_____

(e) Add all the numbers up and then divide it by 7. What is your result?

_____

_____

Strand: Patterns (Allow approx. 5 minutes)

Write down the next three numbers in the following:

(a) 5, 10, 15, ____, ____, ____

(b) 26, 22, 18, ____, ____, ____

(c) 4, 9, 16, ____, ____, ____

(d) 60, 50, 41, ____, ____, ____

4/12/03

84/93 ~ 90%

Year 7 - Half Yearly Examination

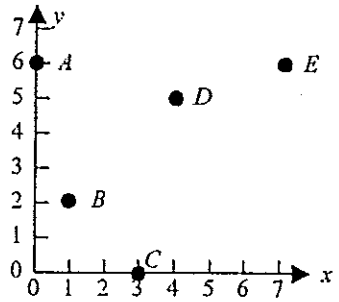
Name: Victor Chu

Time Allowed: 60 minutes

V. Good work!

Strand: Number (Allow approx. 30 minutes)

1. Write down the letter used to name each of these points:



(a) (3, 0) C ✓

(b) (4, 5) D ✓

(c) (1, 2) B ✓

(d) (0, 6) A ✓

(e) (7, 6) E ✓

2. Use a directed number to represent "60m below sea level."

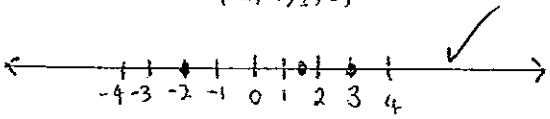
-60m ✓

3. Write a directed number to show the change described by "I was 12 km from home and now I am 8 km from home."

-4 Km ✓

4. Graph the following on a number line:

{-2, 1½, 3}



✓

5. Arrange {6, -3, -5, 4} in order from smallest to largest.

-5, -3, 4, 6 ✓

6. -6 + 9 =

3 ✓

-4(2+-6) -4+2+-6

7. -4 - (-2 + 6) = -4 - 4

-14 X = -8

8. 7 - -9 =

16 ✓

9. -11 × 4 =

-44 ✓

10. -8 × -7 =

56 ✓

11. $(-9)^2$ =

81 ✓

12. -24 ÷ 6 =

-4 ✓

13. -96 ÷ -12 =

8 ✓

14. 13 - 12 ÷ 4 + 4 =

1 3

1/8 X 13 - 3 + 4 = 9 14

-9 -63 7

15. (4 - 13) × (-2 + 9) ÷ 3

-7 X -21

16. Write the next 3 numbers in the number pattern; 5, 3, 1,...

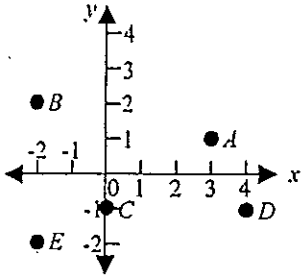
-1, -3, -5 ✓

17/20

17. Two numbers multiply to make 15 and add to make -8. What are the 2 numbers?

-5, -3 ✓

18.



(a) A = (3 , 1) ✓

(b) C = (0 , -1) ✓

(c) E = (-2 , -2) ✓

(d) D = (4, -1) ✓

(e) B = (-2, 2) ✓

19. Convert the following into standard numbers:

(a) VII 7 ✓

(b) CLXIII 158 ✓

(c) DCCIX 709 ✗

(d) MDV 1505 ✓

(e) IV CXCIX 40194 ✓

20. Convert the following to Roman Numerals:

(a) 37 XXXVII ✓

(b) 645 DCXLV ✓

(c) 1979 MCMDCCIX ✓

(d) 214 726 CCXIV & CCXXVI

21. Write twenty-seven million, nine hundred and fourteen thousand, six hundred and eighty-three as a numeral.

27 914 683 ✓

22. Write 47 285 in words.

~~Forty~~ Forty-seven thousand two hundred and ~~eighty~~ eighty-five. ✓

23. What is the value of the 5 in 785 943?

5000 (thousands) ✓

24. Express 20000 + 4000 + 900 + 50 + 1 as a basic numeral.

24951 ✓

25. Arrange in ascending (lowest to highest) order:

52 398, 7 610, 300 477, 19 342

7610, 19342, 52398, 300 477 ✓

26. Write (9 × 1000 000) + (3 × 100 000) + (8 × 10 000) + (1 × 100) + (5 × 10) + (7 × 1) as a basic numeral.

9 380 157 ✓

27. Write 9 306 in expanded form (same form as question 26)

(9×1000) + (3×100) + (6×1) ✓

28. Insert sets of brackets to make the following statement true:

$(6 + 2) \times (8 - 5) = 24$ ✓

21/23

29. Is 32.4 > 32?

Yes ✓

30. Write 3 Even Numbers

2, 4, 6 ✓

31. Write 3 Triangular Numbers

3, 6, 10 ✓

32. Write 3 Square Numbers

4, 16, 25 ✓

33. List all the factors of 28.

1, 2, 4, 7, 14, 28 ✓

34. Find the Highest Common Factor (HCF) of 28 and 32.

4 ✓

35. List the first 4 multiples of 9.

9, 18, 27, 36 ✓

36. Find the Lowest Common Multiple (LCM) of 9 and 12.

36 ✓

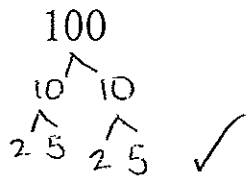
37. List all the prime numbers between 10 and 30.

11, 13, 17, 19, 23, 29 ✓

38. List all the composite numbers between 5 and 17.

6, 8, 9, 10, 12, 14, 15, 16 ✓

39. Complete a factor tree for:



✓

40. Express 100 as a product of its prime factors.

$2^2 \times 5^2$ ✓

41. $\sqrt{81} =$

9 ✓

42. $\sqrt[3]{64} =$

4 ✓

43. Express 3 × 3 × 3 × 3 in index form.

3^4 ✓

Strand: Geometry (Allow approx. 15 minutes)

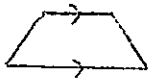
1. Name two shapes that have no straight sides.

Circle, oval ✓

2. How many sides does a hexagon have?

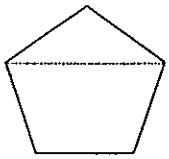
6 ✓

3. Sketch a trapezium.


✓

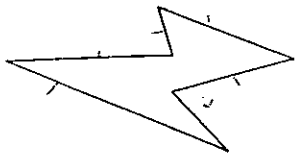
18
18

4. The following pentagon has been formed by combining two shapes. What are the shapes?



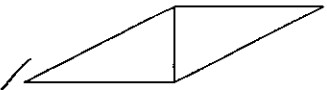
Triangle ✓ and Trapezium ✓

5. Name the following shape:



Hexagon ✓

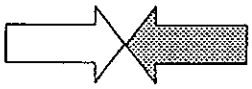
6. Name all the shapes you see in the following diagram:



Triangles ✓ and ~~Rhombus~~ Parallelogram.

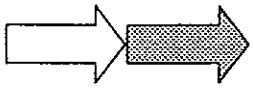
7. Name the transformation that has taken place in each of the following diagrams:

(a)



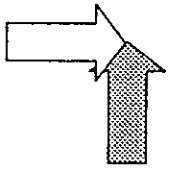
Mirror Reflection ✓

(b)



Slide ✓

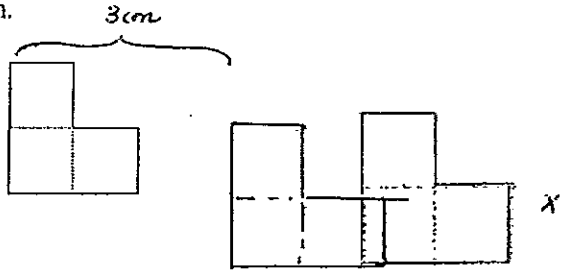
(c)



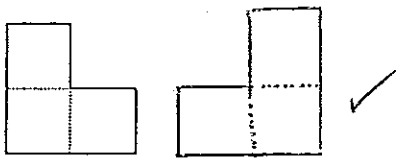
Rotate ✓

8. Perform the following transformations on the diagram below:

(a) Translate 3 cm to right and 1 cm down.

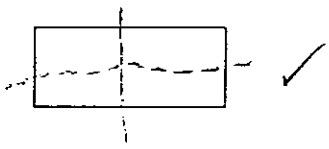


(b) Reflect on the right hand edge.

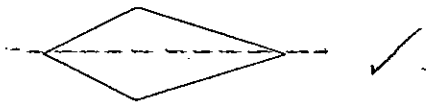


9. Show any axes of symmetry on the following shapes:

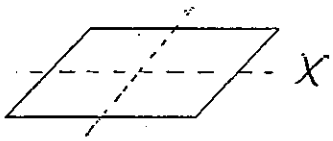
(a)



(b)



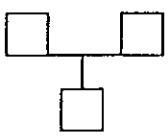
(c)



None

10. Which of the following shapes have point symmetry? If they do, write down what order of point symmetry they have.

(a)

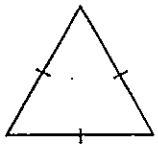


Circle - Point Symmetry?

YES (NO) ✓

Order (if any) _____

(b)



Circle - Point Symmetry?

(YES) ✓ NO

Order (if any) _____

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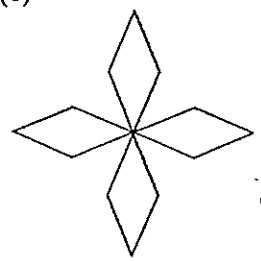
(c)

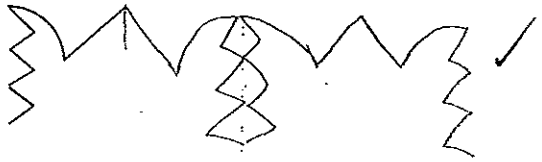


Circle - Point Symmetry?

(YES) ✓ NO

Order (if any) _____

11. Complete the following tessellation:



Strand: Measurement (Allow approx. 5 minutes)

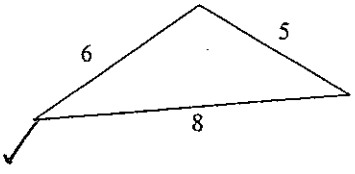
1. 8 m = 800 cm. ✓

2. What instrument would be used to measure the width of a box of cereal?

Ruler ✓

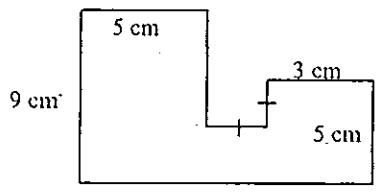
3. Find the length of the fence around the following paddocks:

(a)



19 ✓

(b)



~~32~~ cm 42

4. How many days in a fortnight?

14 days ✓

5. 120 min = 2 ✓ hours.

Strand: Data (Allow approx. 5 minutes)

1. Use these numbers to answer the following questions:

23, 16, 20, 18, 24, 19, 20

(a) Arrange the numbers from smallest to largest.

16, 18, 19, 20, 20, 23, 24 ✓

(b) What is the middle number after they have been arranged from smallest to largest?

20 ✓

(c) What number appears most often?

20 ✓

(d) What is the difference between the highest number and the lowest number?

8 ✓

(e) Add all the numbers up and then divide it by 7. What is your result?

20 ✓

Strand: Patterns (Allow approx. 5 minutes)

Write down the next three numbers in the following:

(a) 5, 10, 15, 20, 25, 30 ✓

(b) 26, 22, 18, 14, 10, 6 ✓

(c) 4, 9, 16, 25, 36, 49 ✓ (5 7 9)

(d) 60, 50, 41, 33, 26, 20 ✓

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