YEAR 9

NATIONAL TRIAL EXAMINATION PAPERS
(NTEP)

2009

NUMERACY
CALCULATOR ALLOWED

Please write below in capital letters your first name and your last name.

FIRST NAME: _____

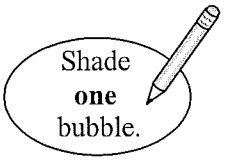
LAST NAME: _____

DATE OF BIRTH:_____/_____/_____

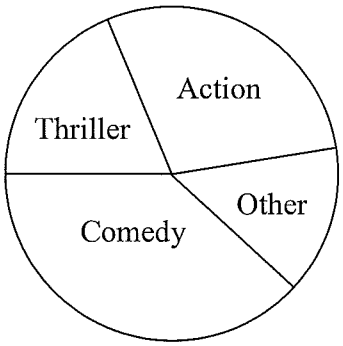
Students are to complete this test in 40 minutes: 0:40

YEAR 9 – NATIONAL TRIAL EXAMINATION PAPER – 2009

NUMERACY



1. The graph shows the profit made from renting various movie types.



From which of the following did the video store make more than half their total profit?

- ⬭ Action and Thriller
- ⬭ Action and Other
- ⬭ Thriller and Other
- ⬭ Thriller and Comedy

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2. Three weeks ago the price of a share in a mining company was $12.80. A week later its value decreased by $3.75. Last week, its value increased by $4.65.

What was its value last week?

$4.40	$9.05	$13.70	$21.20
⬭	⬭	⬭	⬭

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3. If 4a = 20, what is the value of 8a?

80	48	40	28
⬭	⬭	⬭	⬭

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4. The table shows the heights of a group of five friends.

NAME	Melanie	Theo	Wendy	Robert	Freddy
HEIGHT	158cm	178cm	162cm	192cm	170cm

What is the average (mean) height of this group?

172cm	170cm	168cm	160cm
⬭	⬭	⬭	⬭

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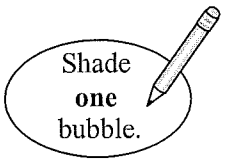
5. What is the next number in the sequence $3\frac{5}{6}$, $6\frac{1}{6}$, $8\frac{1}{2}$, $10\frac{5}{6}$, ...



$12\frac{1}{6}$ ⬭ $12\frac{1}{2}$ ⬭ $13\frac{1}{6}$ ⬭ $14\frac{1}{6}$ ⬭

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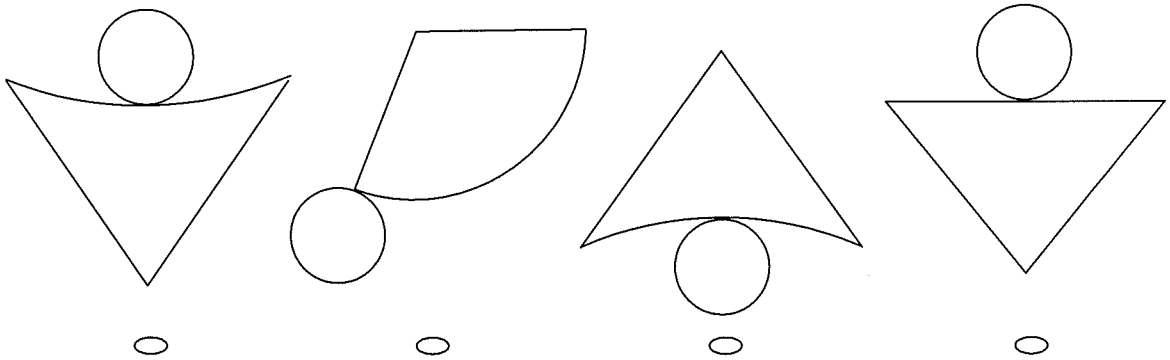
6. Which of the following is the net of a cone?



⬭ ⬭ ⬭ ⬭

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7. If $p + 1 = 8$, the value of p^2 would be:

49 ⬭ 64 ⬭ 81 ⬭ 100 ⬭

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8. On a map a block of land is 5cm long and 3cm wide.
It represents a block of land which has an actual length of 100m.

How wide would the actual block of land be?

30m ⬭ 50m ⬭ 60m ⬭ 75m ⬭

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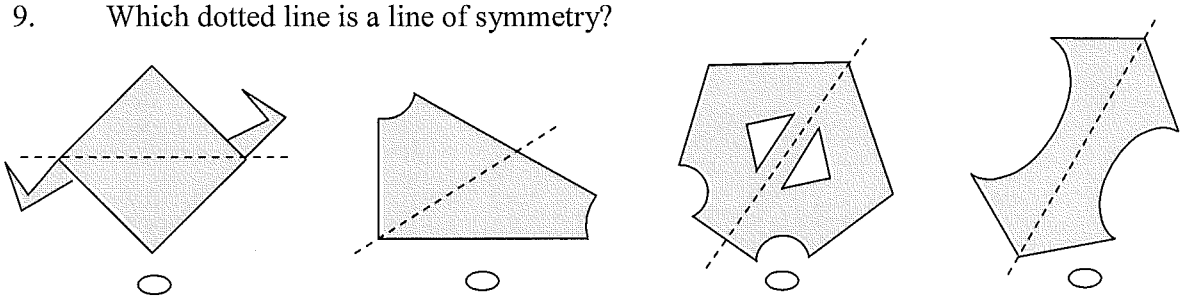
9. Which dotted line is a line of symmetry?



⬭ ⬭ ⬭ ⬭

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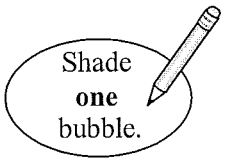
10. A family uses 840 litres of water every 3 days. At this rate, how many litres of water will the family use in 15 days?



2520 litres ⬭ 4200 litres ⬭ 4250 litres ⬭ 12600 litres ⬭

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11. If $p = 8$, find the value of $\frac{5p}{2p+4}$

2 ⬭ 6 ⬭ 20 ⬭ 40 ⬭

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12. In a karate club, 8 members are black belt.
The remaining 32 members are on various coloured belts.

What percentage of the club members are black belt?

8% ⬭ 20% ⬭ 25% ⬭ 40% ⬭

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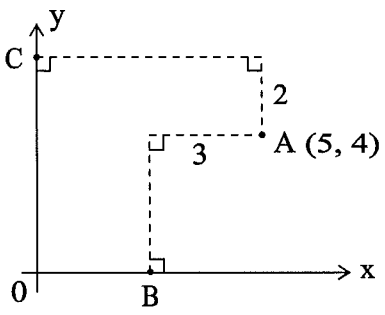
13. A, B and C are points on the number plane.



What are the coordinates of B and C?

⬭ B(2, 0) and C(0, 6)

⬭ B(1, 0) and C(0,6)

⬭ B(2, 0) and C(0, 7)

⬭ B(0, 2) and C(6, 0)

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14. The table shows values for x and y.

x	0	1	2	3	4
y	3	4	7	12	19

Which of the following is the correct rule for x and y?

$y = 3x$ ⬭ $y = x^2 + 3$ ⬭ $y = 2x + 3$ ⬭ $y = 4x$ ⬭

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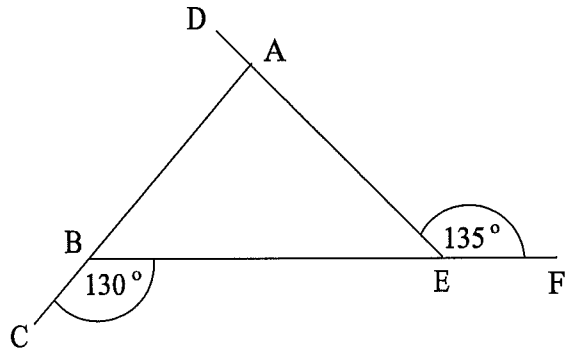
15. In the diagram, ABC, DAE and BEF are straight lines.



Shade **one** bubble.

What is the size of angle BAE?

○ 130°	○ 135°
○ 95°	○ 85°

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16. Karen had a square photo of side length 4cm.

She enlarged it and its area became 400cm^2

Area = 400cm^2

The side length of the enlarged photo became

- ○ 100 times the side length of the original.
- ○ 10 times the side length of the original.
- ○ 5 times the side length of the original.
- ○ 2 times the side length of the original.

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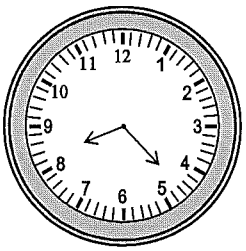
17. The diameter of this clock is 38.8cm.



What is its circumference to the nearest centimetre?

○ 121cm	○ 122cm
○ 243cm	○ 244cm

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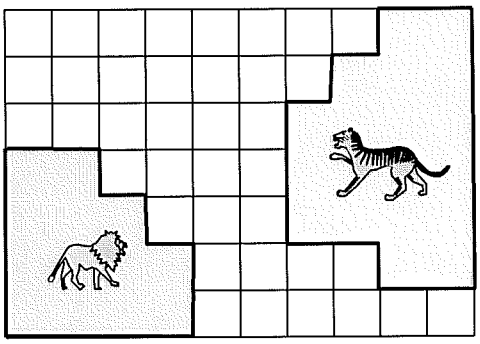
18. The area of the lion enclosure on the grid is $195m^2$.

Shade **one** bubble.



What is the area of the tiger enclosure?

- ○ $285m^2$
- ○ $270m^2$
- ○ $255m^2$
- ○ $19m^2$

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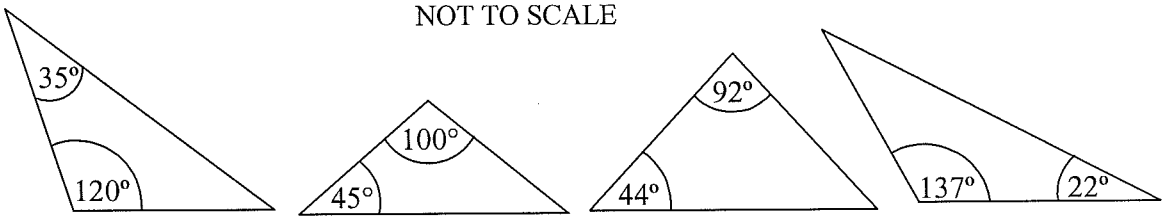
19. Which of the following triangles is an obtuse angled, isosceles triangle?

NOT TO SCALE



○ ○ ○ ○

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20. Vanessa left home at 10:40 a.m. and reached the Snowy Mountains at 3:15 p.m.

How many hours and minutes did it take her to reach her destination?

- ○ 4 hours 25 minutes
- ○ 4 hours 35 minutes
- ○ 5 hours 25 minutes
- ○ 5 hours 35 minutes

---

21. This is a rule for p in terms of q.

$p = 4 - 5q$

What is the value of p when $q = 4.6$?

19	3.6	– 4.6	– 19
○	○	○	○

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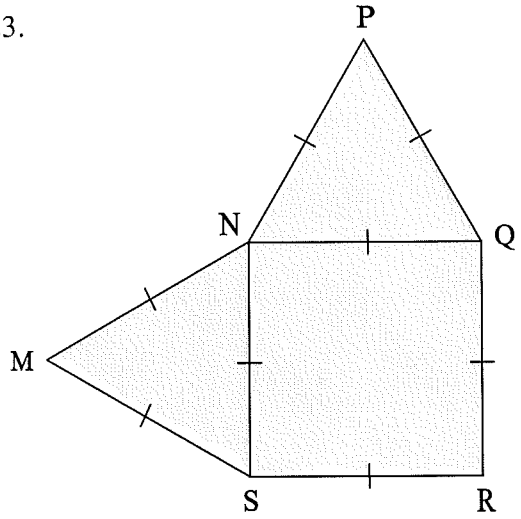
22. At Trevor's local store a can of soft drink costs \$1.20. At the local supermarket the price for a carton of 24 cans is \$18.

Shade **one** bubble.

How much would Trevor save on each can if he purchases 24 cans from the supermarket rather than his local store?

\$0.20	\$0.45	\$0.75	\$10.80
○	○	○	○

23.



In the diagram NQRS is a square.

PQN and MNS are two equilateral triangles.

What is the size of the obtuse angle MNP?

○ 150°	○ 140°
○ 130°	○ 120°

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24. The distance to the horizon, d kilometres, is given by the rule $d = \frac{5}{2}\sqrt{2h}$, where h is the height above sea level in metres.

Write your answer in the box

What is the distance to the horizon if the observer is 288 metres above sea level?

[ ] km

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25. Tracy follows this rule to find the next number in her pattern.

Divide the previous number by 6 and then subtract 2

The first 3 numbers in her pattern are: 205 284 , 34 212 , 5 700 , ...

What is the sixth number in her pattern?

[ ]

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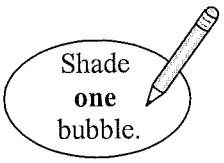
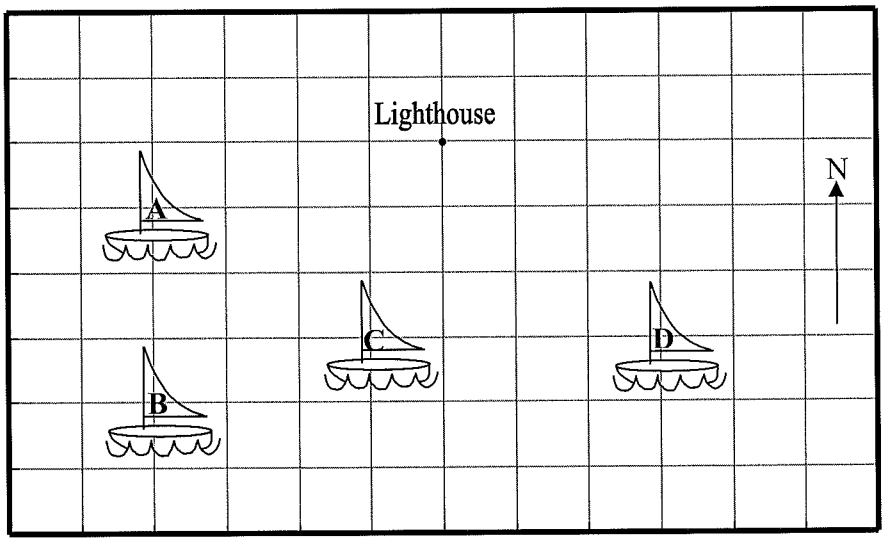
26. The map below shows the position of four boats from a lighthouse.





John is in the lighthouse. He is facing West and he turns 135° in an anticlockwise direction.

Which boat is John facing now?

Boat A ⬭ Boat B ⬭ Boat C ⬭ Boat D ⬭

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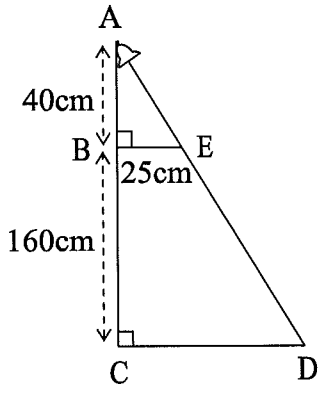
27. When the light at A is turned on, the shelf BE casts a shadow CD on the floor.



What is the length of the shadow CD?

⬭ 125cm ⬭ 100cm

⬭ 75cm ⬭ 50cm

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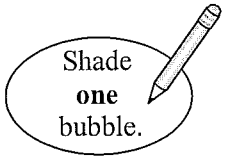
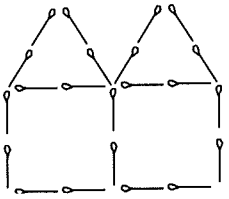
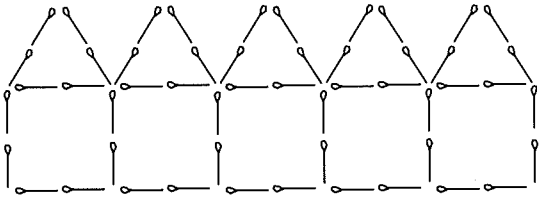
28. 2 houses are formed using 22 matchsticks.

5 houses are formed using 52 matchsticks.





22 matchsticks



52 matchsticks

Which rule can be used to find the number of matchsticks needed to form n houses?

5n + 12 ⬭ 10n + 2 ⬭ 11n ⬭ 12n – 2 ⬭

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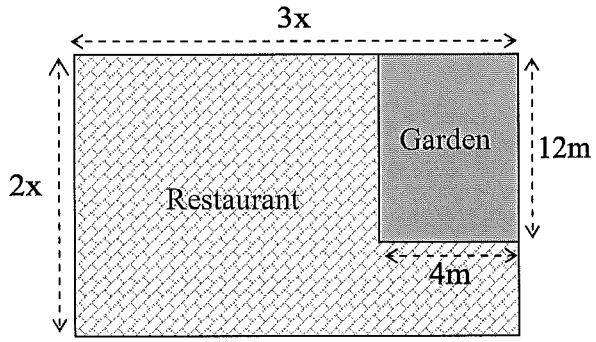
29. The diagram shows a restaurant and its garden.



The area of the restaurant is

⬭ $6x^2 - 48$ ⬭ $6x^2 + 48$

⬭ $12x^2 - 48$ ⬭ $12x^2 - 16$

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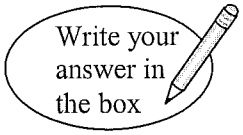
30. Monique is planning a birthday party. The function centre calculates the cost C (in dollars) for n guests using the formula :

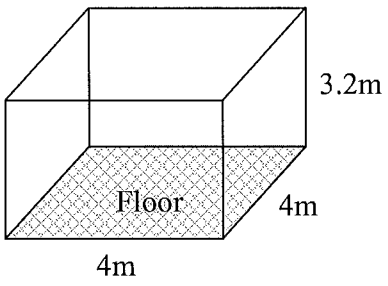


$C = 24n + 600$.

If Monique has $2 640 to spend, how many guests can she have at her party?

[ ] guests

31.



This diagram shows David's bedroom.

Shade **one** bubble.

David wants to put one coat of paint on the four walls and the ceiling of his bedroom.

Use the information in the table to find the lowest cost to paint David's bedroom.

1 litre covers $15m^2$	Paint prices	
	1 litre can	$11.50
	2 litre can	$18.50

$57.50 ⬭ $55.50 ⬭

$48.50 ⬭ $37 ⬭

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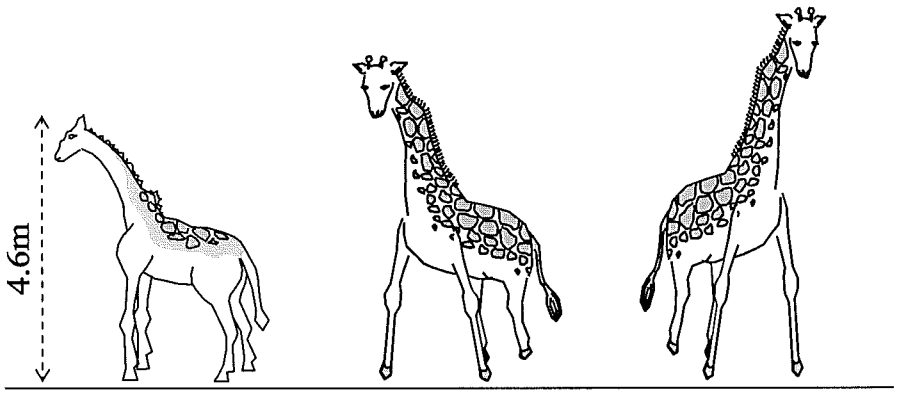
32. The average height of these giraffes is 5.3 metres.

The tallest giraffe is 1.1 metres taller than the middle giraffe.

Write your answer in the box

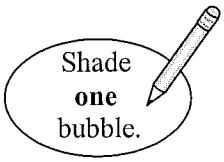


What is the height of the tallest giraffe?

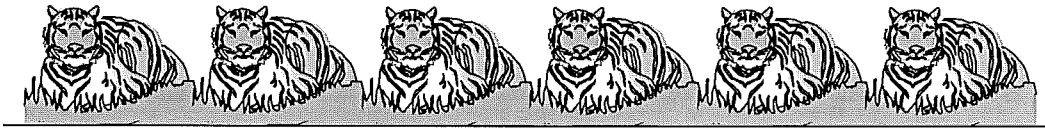
[ ] metres

END OF TEST

YEAR 9 – NUMERACY – NTEP – PRACTICE QUESTIONS



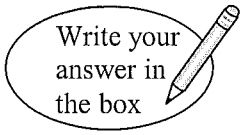
P1. The picture graph shows the number of tigers in a zoo.



How many tigers are in this zoo?

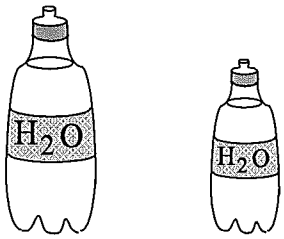
5 ○ 6 ○ 7 ○ 8 ○

P2.



7 + 2 = ☐

P3. What is the total cost of these two bottles of water?



$2.00 $1.20

$ ☐
