VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY

AIM 2003

Achievement Improvement Monitor

MATHEMATICS Year 7

STUDENT DETAILS

Student and school names should be written (in block letters) as they appear on the parent report.

TEACHERS, PLEASE PRINT CLEARLY

2B Pencil ONLY

STUDENT'S FIRST NAME

STUDENT'S LAST NAME

DATE OF BIRTH

D D M M 1 9 Y Y

1. Is this student Male or Female?	Male ○	Female ○
2. Is this student Aboriginal or a Torres Strait Islander?	No ○	Yes ○
3. Does this student have a language background other than English?	No ○	Yes ○
4. If 'Yes' to Question 3, is English the main language spoken at home?	No ○	Yes ○
5. If 'No' to Question 4, when did the student first start in an Australian school?	M M	Y Y Y Y

SCHOOL NAME

CENTRALLY ASSESSED TASKS

Please shade the appropriate bubble if the student did NOT do this task.

SHORT ANSWER QUESTIONS ○

EXTENDED TASKS ○

7M-01

AIM 2003 Year 7 Mathematics

Please print your name here.

First Name Last Name

Practice Questions

1

25 + 10 =

- ◯ 26
- ◯ 30
- ◯ 35
- ◯ 45

Shade one bubble.

2

What is half of 20? ☐☐

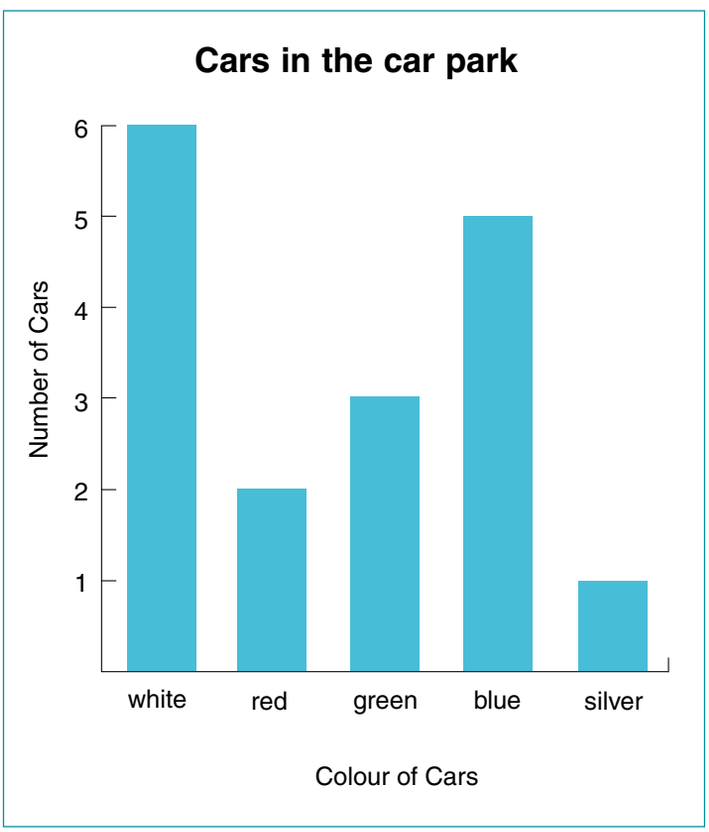
Write one number in each box.

YEAR 7 MATHEMATICS

This task will take 45 minutes.

Shade one bubble.

1



According to this graph, the total number of blue cars and white cars in the car park is

- ◯ 5
- ◯ 6
- ◯ 11
- ◯ 17

2

The digit 7 in 76 500 represents

- ◯ seventy.
- ◯ seven hundred.
- ◯ seven thousand.
- ◯ seventy thousand.

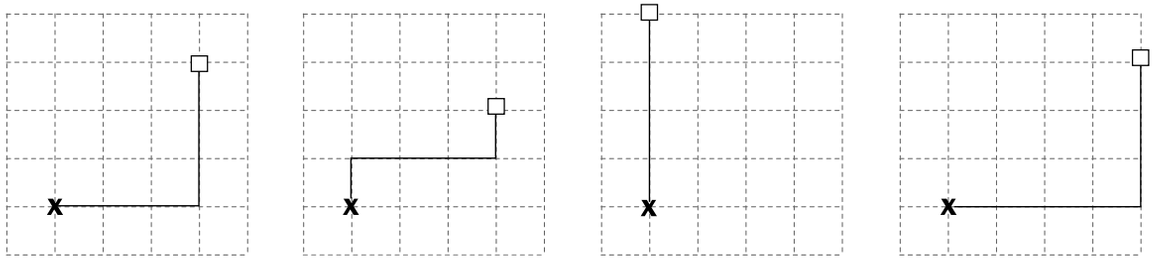
Shade one bubble.

3

Four students drew paths from their desks to the teacher's desk using the same scale.

Which path is the longest?

KEY
X Teacher's Desk
□ Student's Desk



◯ ◯ ◯ ◯

4

When Jake went to sleep his clock showed 8:30 pm.

When he woke up the next morning it showed 7:35 am.

For how long did Jake sleep?

- ◯ 10 hrs 55 mins
- ◯ 11 hrs 5 mins
- ◯ 11 hrs 55 mins
- ◯ 12 hrs 5 mins

5

Ling had 6 bags of balloons and each bag had 9 balloons inside.

How many balloons did she have altogether?

15 ◯ 45 ◯ 54 ◯ 60 ◯

6

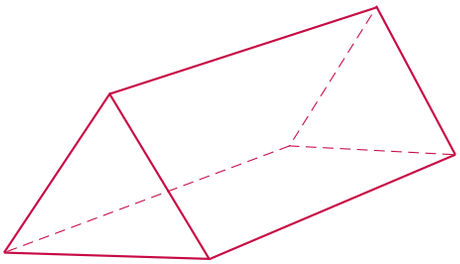
Lana bought 2 apples at 35c each, 3 bananas at 55c each and 5 mandarines at 25c each.

Which one of the following would calculate the total cost in dollars of what Lana bought?

- ◯ $(2 \times 0.35) + (3 \times 0.55) + (5 \times 0.25)$
- ◯ $(2 \times 35) + (3 \times 5.5) + (5 \times 0.25)$
- ◯ $(2 \times 0.35) + (3 \times 5.5) + (5 \times 25)$
- ◯ $(2 \times 3.5) + (3 \times 5.5) + (5 \times 2.5)$

7

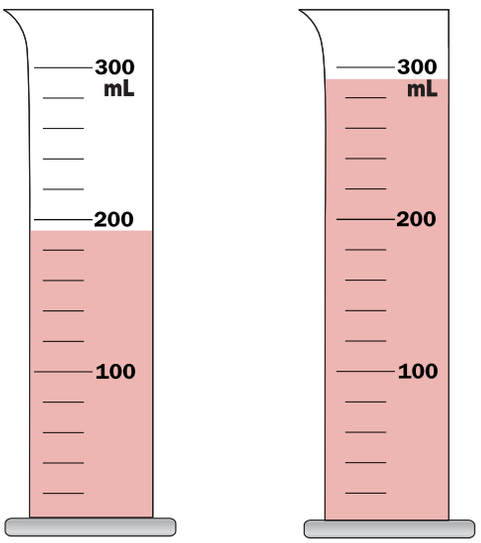
How many vertices are there in this triangular prism? ☐



Write one number in the box.

8

Jug A and Jug B contain different amounts of water.



Jug A Jug B

Shade one bubble.

How much **more** water is in Jug B?

- ◯ 60 mL
- ◯ 80 mL
- ◯ 100 mL
- ◯ 120 mL

9

To get to his friend's house, Sam spent $1\frac{1}{4}$ hours on the bus and then walked for another $\frac{1}{2}$ hour.

The total time spent by Sam getting to his friend's house was

- ◯ $\frac{3}{4}$ hour.
- ◯ $1\frac{3}{4}$ hours.
- ◯ 2 hours.
- ◯ $2\frac{1}{4}$ hours.

10

A gum ball machine contains:

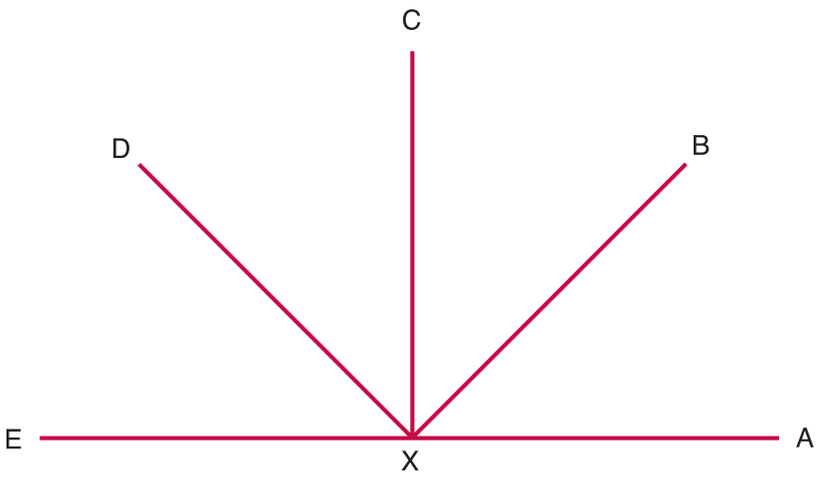
10 blue gum balls
10 red gum balls
30 yellow gum balls
50 green gum balls

The machine mixes the balls and drops one out.

What is the chance that the gum ball is **red**?

- ◯ unlikely
- ◯ fifty-fifty
- ◯ certain
- ◯ impossible

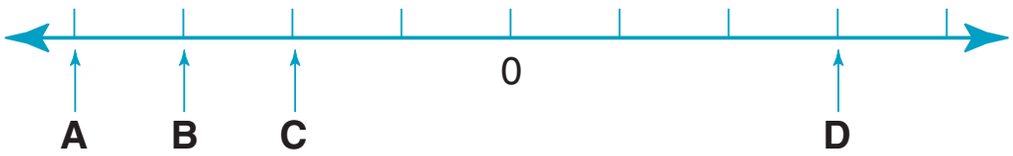
11 $\overline{DX}$ and which other line segment make an angle of about 90° when they meet?



Shade one bubble.

- ○ $\overline{AX}$
- ○ $\overline{BX}$
- ○ $\overline{CX}$
- ○ $\overline{EX}$

12 The letters A, B, C, and D indicate values on a number line with one unit intervals.



The number **–3** is indicated by the letter

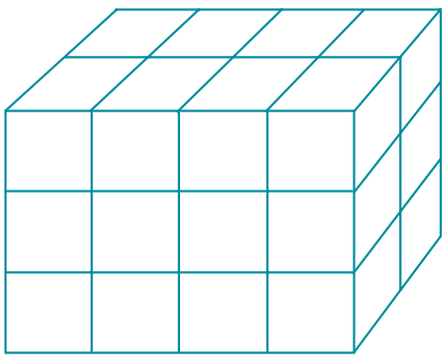
A ○ B ○ C ○ D ○

13 Sue tossed a 20 cent coin 99 times.

The chance of tossing a head in the 100th toss is

- ○ 1 in 100
- ○ 100%
- ○ zero
- ○ 50-50

14 This prism is made up of identical cubes.



How many cubes are completely hidden from view?

- ○ 0
- ○ 4
- ○ 6
- ○ 8

15 A book with 63 pages had pictures on $\frac{7}{9}$ of the pages.

How many pages in the book had pictures on them? ☐☐

Write one number in each box.

16 Jade's soccer match will take 90 minutes from start to finish, including breaks.

Her team must finish by 3:20 pm.

The latest time the match can start is

- ◯ 1:45 pm.
- ◯ 1:50 pm.
- ◯ 1:55 pm.
- ◯ 2:00 pm.

Shade one bubble.

17 Danny bought a salad sandwich, a fruit juice and an ice-cream from the canteen.

Canteen Price List	
Pies	$2.20
Pasties	$2.20
Salad Sandwich	$1.60
Fruit Juice	$1.20
Ice-cream	60c

How much change should he get if he paid with $10.00?

- ◯ $1.60
- ◯ $3.40
- ◯ $5.40
- ◯ $6.60

18 What is the maximum number of 45 cent pens that can be bought with $20.00?

40 ◯ 42 ◯ 44 ◯ 46 ◯

19 The best estimate for 6.89×15.08 is

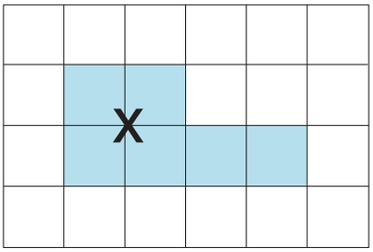
- ◯ 6×15
- ◯ 7×15
- ◯ 6×16
- ◯ 7×16

20 $6904 \div 4 =$ ☐☐☐☐

Write one number in each box.

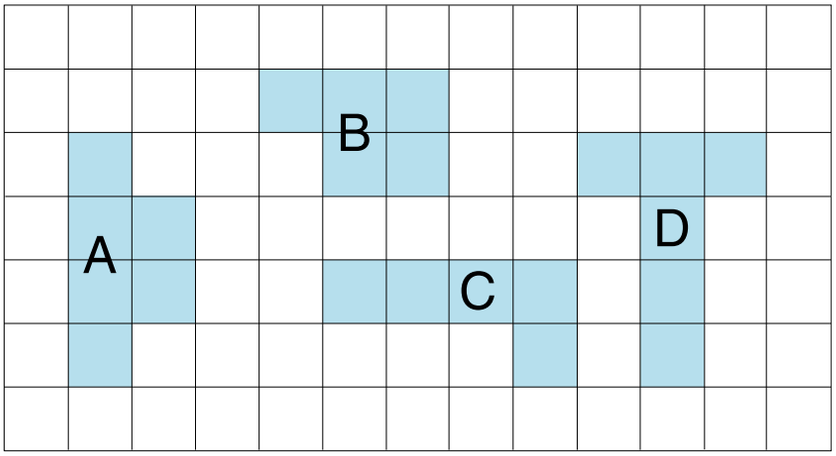
21 $98 \times 32 =$ ☐☐☐☐

22 The shaded area shows shape X.



Shade one bubble.

Which other shape has the **same perimeter** as shape X but a **different area?**



- ◯ A
- ◯ B
- ◯ C
- ◯ D

---

23 For the values in this table, what is the rule that describes y in terms of x?

x	0	1	2	3	10
y	3	5	7	9	23

- ◯ $y = x + 3$
- ◯ $y = 2x + 3$
- ◯ $y = 3x$
- ◯ $y = 3x + 1$

---

24 35×0.2 is equal to

7 ◯ 17.5 ◯ 35.2 ◯ 70 ◯

---

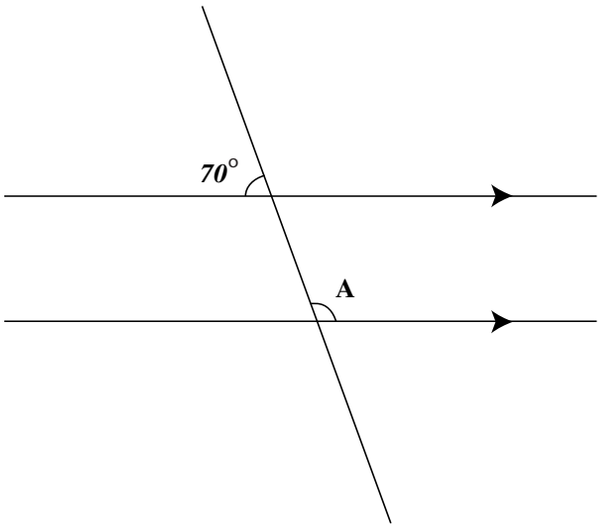
25 -6×-3 is equal to

18 ◯ 9 ◯ –9 ◯ –18 ◯

26 $22.084 - 8.56 = \square\square . \square\square\square$

Write one number in each box.

27



Shade one bubble.

From the diagram, what size is angle A?

- ◯ 70°
- ◯ 90°
- ◯ 110°
- ◯ 130°

28 Which value of x makes the equation $2x - 1 = 15$ true?

5	7	8	16
◯	◯	◯	◯

29 How long will it take to drive 120 km travelling at a constant speed of 90 km per hour?

- ◯ 80 minutes
- ◯ 90 minutes
- ◯ 100 minutes
- ◯ 120 minutes

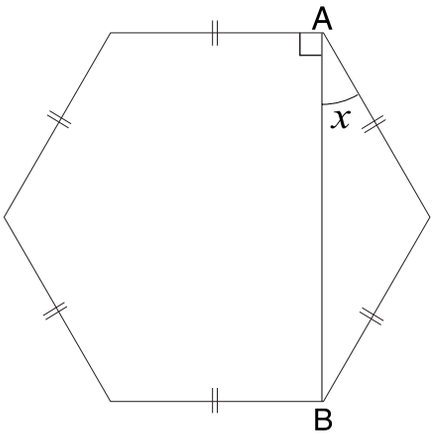
30 Steve sailed his boat continuously from 5 pm 14 July 2003 to 10 am 18 July 2003.

For how many hours did he sail?

65	89	103	120
◯	◯	◯	◯

31

A straight line connects points A and B in this regular hexagon.

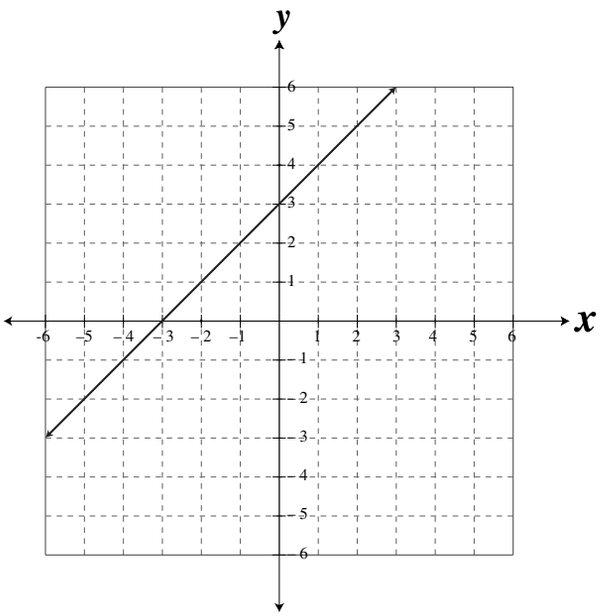


Shade one bubble.

What is the value of the angle marked x?

- 15°
- 30°
- 50°
- 60°

32



Which equation describes this graph?

- $y = x + 3$
- $y = x - 3$
- $y = 3x + 3$
- $y = 3x - 3$

33

An internet company charges a connection fee of $15 and then $1.80 for every hour of usage.

Which equation represents the total cost, C, in dollars of using the internet for h hours?

- $C = h\ (15 + 1.80)$
- $C = 15h + 1.80$
- $C = 15 + 1.80$
- $C = 15 + 1.80\ h$

34 $\sqrt{36} + 7^2 - 4$ is equal to

16 ○ 46 ○ 51 ○ 63 ○

Shade one bubble.

---

35 Which of these has the least value?

10% ○ $\frac{1}{4}$ ○ $\frac{3}{10}$ ○ 0.4 ○

---

36 Yana and Leo each collected 5 donations for a charity.

The amounts they collected are shown in the table.

Yana	Leo
\$2	\$1
\$3	\$2
\$5	\$2
\$10	\$5
\$10	\$20

Yana and Leo collected amounts that had

- ○ the same mean and the same median.
- ○ the same mean and a different median.
- ○ a different mean and the same median.
- ○ a different mean and a different median.

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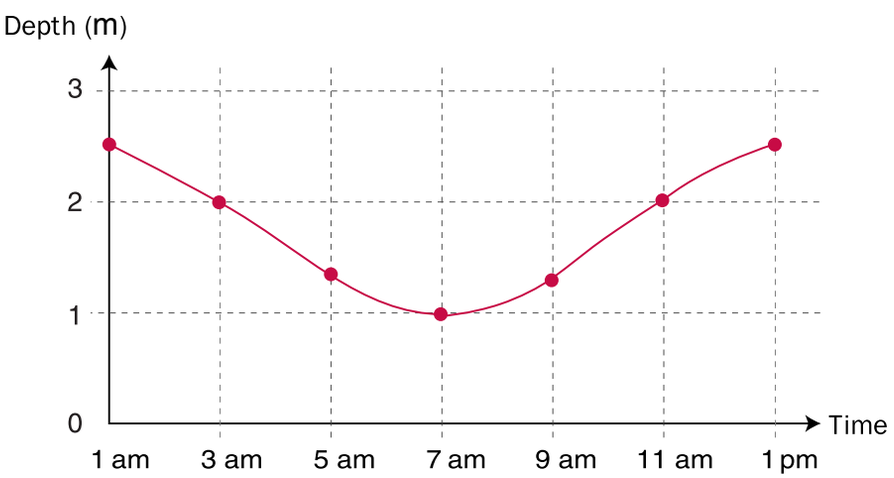
37 This graph shows the depth of water at the end of a pier from 1 am to 1 pm.



For how long during this period was the depth of the water 2 metres or less?

- ○ 3 hours
- ○ 4 hours
- ○ 8 hours
- ○ 11 hours

38

Gary filled a 4 L bucket with water in 10 seconds.

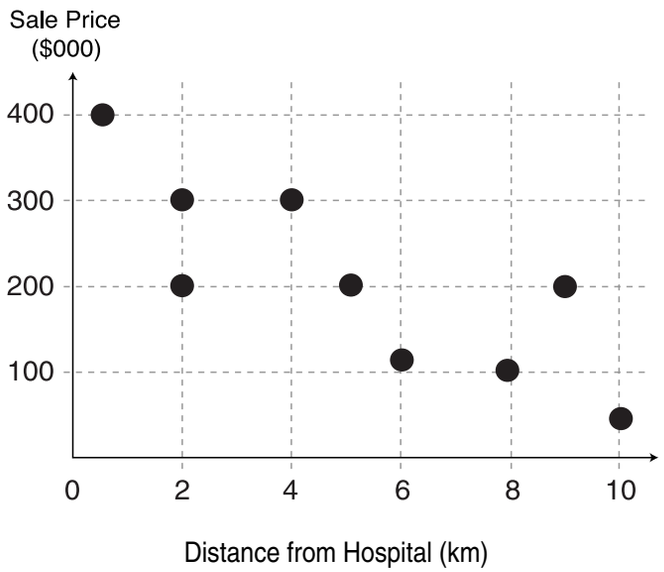
At the same rate, how long would it take him to fill a 30 L container with water?

Shade one bubble.

- ◯ 65 seconds
- ◯ 75 seconds
- ◯ 90 seconds
- ◯ 120 seconds

39

The scatter plot shows the sale price of nine houses and their distance from a hospital.

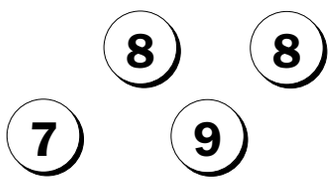


The scatterplot indicates that

- ◯ houses are usually cheaper if they are further from the hospital.
- ◯ houses are usually cheaper if they are closer to the hospital.
- ◯ house prices are not related to the distances from the hospital.

40

Karen had these four counters.



She mixed them up, closed her eyes and selected a counter at random.

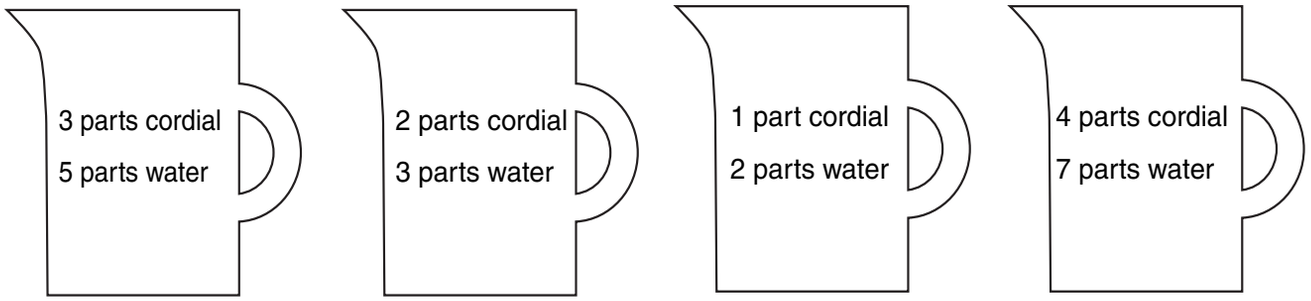
The probability that the counter she selected had the number 8 on it is

0.2 ◯ 0.25 ◯ 0.4 ◯ 0.5 ◯

41 Four jugs of lemon drink are made from cordial and water as shown.

Which jug contains the highest ratio of cordial to water?

Shade one bubble.



42 Which table of values corresponds to the rule $xy = 36$?

x	y
2	72
3	6
6	3
18	2

x	y
2	34
4	32
6	30
8	28

x	y
2	18
3	12
4	9
6	6

x	y
3	6
4	9
6	6
9	4

43 Micky's allowance of \$15 is increased by 20%.

Her new allowance is

\$18 \$20 \$22.50 \$35.23

44 $2(x + 1) + 3x - 4$ can be simplified to

- $5x + 5$
- $5x - 3$
- $5x + 6$
- $5x - 2$

STOP HERE

AIM 2003
Year 7
Mathematics

Extended Tasks

PLEASE DO NOT TURN THE PAGE UNTIL YOUR TEACHER TELLS YOU TO.

Marker

Mathematics
Extended Tasks
These tasks will take 40 minutes.

Please print your name here.

First Name Last Name

Use the information from the Year 7 Mathematics Extended Task 1 ***"School Camp"*** question sheet to answer the questions below.

Task 1 – School Camp
Answer Sheet

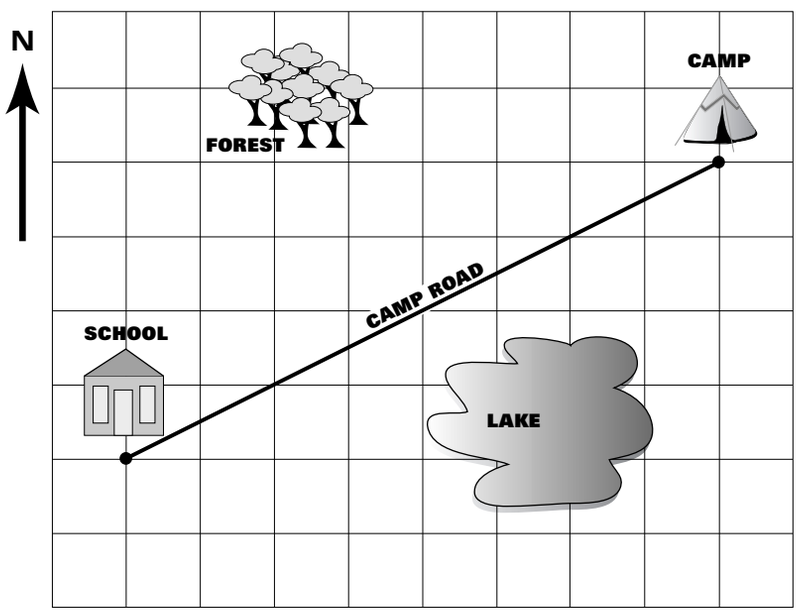
Write your answer in each space.

1 Journey time ____ hours and ____ minutes M 0 1

2 Time with rest stop ____ hours and ____ minutes M 0 1

3 Length of Camp Road ____ kilometres M 0 1

4 Path of the alternate road M 0 1

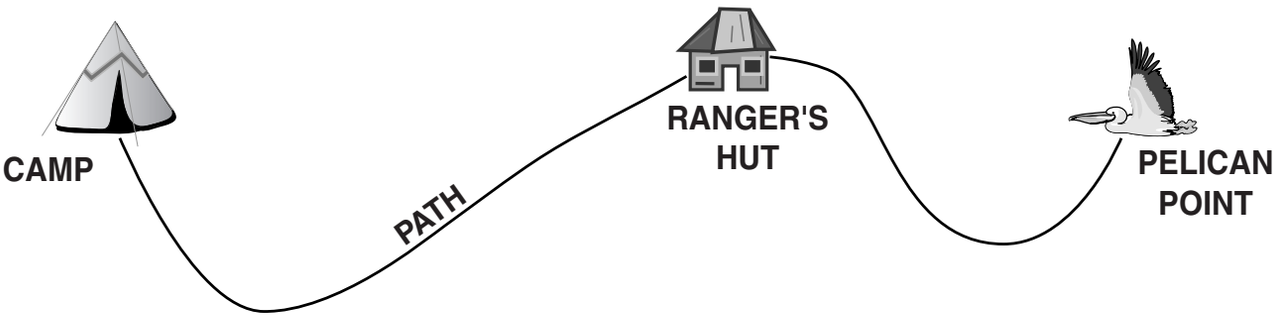


Scale
0 10 20 km

Write your answer in each space.

5 Distance from Camp to Pelican Point ____ metres M 0 1

6 Position of the sign post M 0 1

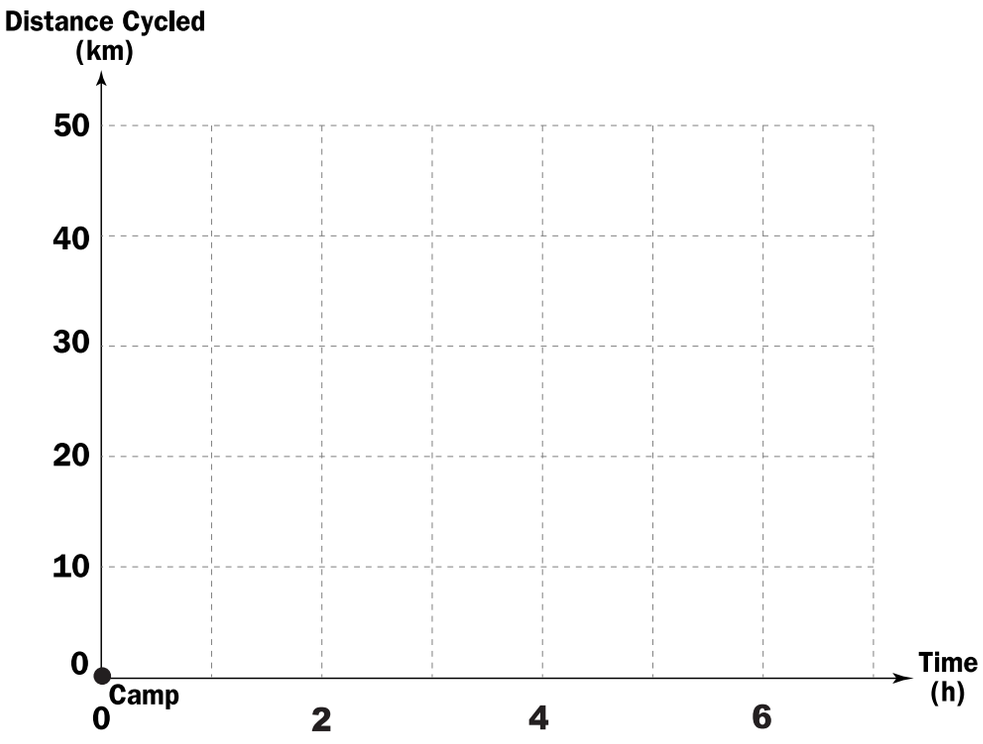


7 Cycle time from Camp to Rocky Beach ____ hours M 0 1

8 Distance from Camp to Rocky Beach ____ kilometres M 0 1

9 Average speed from Camp to Rocky Beach ____ kilometres per hour M 0 1

10 Travel graph for Bill M 0 1



M 0 1

M 0 1

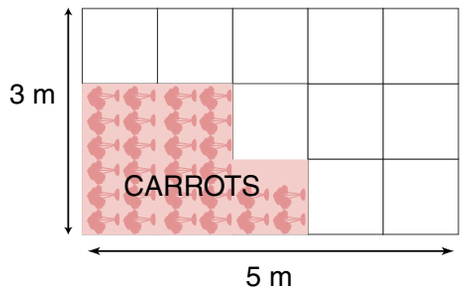
Use the information from the Year 7 Mathematics Extended Task 2 ***"Jo's Backyard"*** question sheet to answer the questions below.

Task 2 – Jo's Backyard
Answer Sheet

Write your answer in each space.

11 Fraction planted with carrots ____ M 0 1

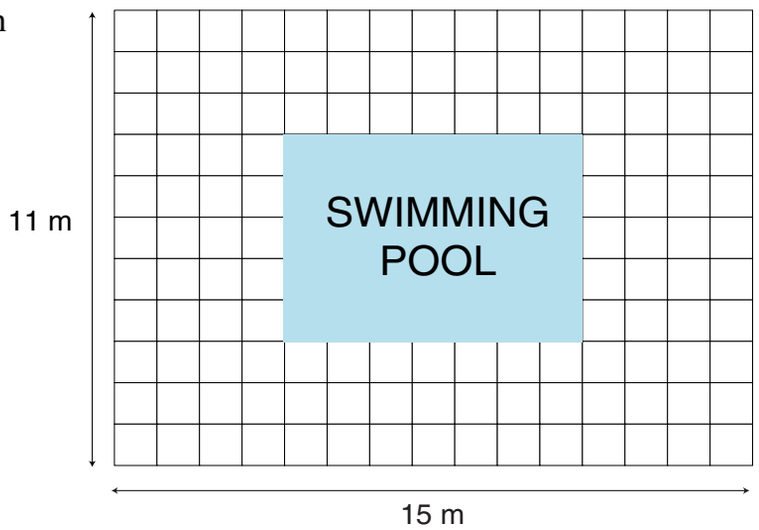
12 Area for the peas



M 0 1

13 Percentage of the total vegetable garden not planted ____ M 0 1

14 Area for the path



M 0 1

15 Area of the path ____ square metres M 0 1

16 Number of tiles needed ____ tiles M 0 1

17 Area of the pool ____ square metres M 0 1

18 Volume of water ____ cubic metres M 0 1

19 Time to fill the pool ____ hours M 0 1