

Name: Solutions

GCSE 9-1 Foundation
Practice Paper
Set C
Paper 3 - Calculator



Corbettmaths

Equipment

1. A black ink ball-point pen.
2. A pencil.
3. An eraser.
4. A ruler.
5. A pair of compasses.
6. A protractor.
7. A calculator

Guidance

1. Read each question carefully.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Information

1. Time: 1 hour 30 minutes
2. The maximum mark for this paper is 80.
3. You may use tracing paper.

Question	Mark	Available
1		1
2		1
3		1
4		3
5		2
6		4
7		2
8		2
9		4
10		5
11		3
12		3
13		3
14		5
15		2
16		4
17		5
18		3
19		3
20		2
21		2
22		4
23		3
24		2
25		3
26		3
27		2
28		3
Total		80

1. Write $\frac{7}{10}$ as a decimal

0.7

(1)

2. Write 0.45 as a percentage

45

%

(1)

3. Write the number ~~16~~372 correct to the nearest thousand.

16,000

(1)

4. Here are the first five terms of a number sequence.

9 15 21 27 33 39 45 51 57 63
 +6 +6

- (a) (i) Write down the next term of the number sequence.

39

(1)

- (ii) Explain how you found your answer.

I added 6

(1)

- (b) Work out the 10th term of the sequence.

63

(1)

5. Put brackets in the following statements to make them true

$$(a) 6 \times (7 + 3) - 8 = 52$$

(1)

$$(b) (4 + 3) \times (7 - 1) = 42$$

(1)

6. (a) Write down all the factors of 24

1, 2, 3, 4, 6, 8, 12, 24

(2)

(b) List all the square numbers between 100 and 200

100, 121, 144, 169, 196

(2)

7. Marcel has three times as many marbles as Lindsey.
Tomas has four times as many marbles as Lindsey.

Marcel has 12 marbles.

How many marbles does Tomas have?

$$\text{Lindsey} \times 3 = 12$$

Lindsey has 4

$$4 \times 4 =$$

16
.....
(2)

8.

$$\sqrt[3]{5.5 \times (1.07 + 2.4)}$$

- (a) Write down your full calculator display.

5.166213395
.....
(1)

- (b) Write your answer to 2 decimal places.

5.17
.....
(1)

9. This timetable shows the times of trains between Liverpool and London.

Liverpool London	04 21 07 11	05 19 08 09	06 39 09 29	07 59 10 49
London Liverpool	14 40 17 30	15 28 18 18	17 00 19 50	18 49 21 39

- (a) How long does each journey take?

2h 50 min
.....
(1)

Russell arrives in London at 08:09.

He spends the next 8 hours visiting tourist attractions in London.

Russell catches the next train back to Liverpool.

- (b) What time should Russell arrive back in Liverpool?

08:09 + 8 hours
= 16:09
catches the 1700 train

1950
.....
(3)

10. Alisha buys 200 books costing £3 each. = £600 spent

She sells $\frac{2}{5}$ of the books at £8 each.

Alisha then reduces the price of the remaining books by 25%.

She then sells some of the remaining books.

Alisha makes £490 profit.

Work out how many books Alisha did **not** sell.

$$\frac{2}{5} \text{ of } 200 = 200 \div 5 \times 2 = 80$$

$$80 \times £8 = £640$$

120 books left

25% off £8 = £6 each

$$\begin{array}{r} \text{She takes } 600 + 490 = £1090 \\ - \quad 640 \\ \hline 450 \end{array}$$

$$450 \div 6 = 75$$

$$120 - 75 =$$

45

(5)

11. Barry is saving money towards a new motorbike that costs £4,000.
He saves £60 each month.

Work out what fraction of the total cost he saved over the first year of saving.
Give your answer in its simplest form.

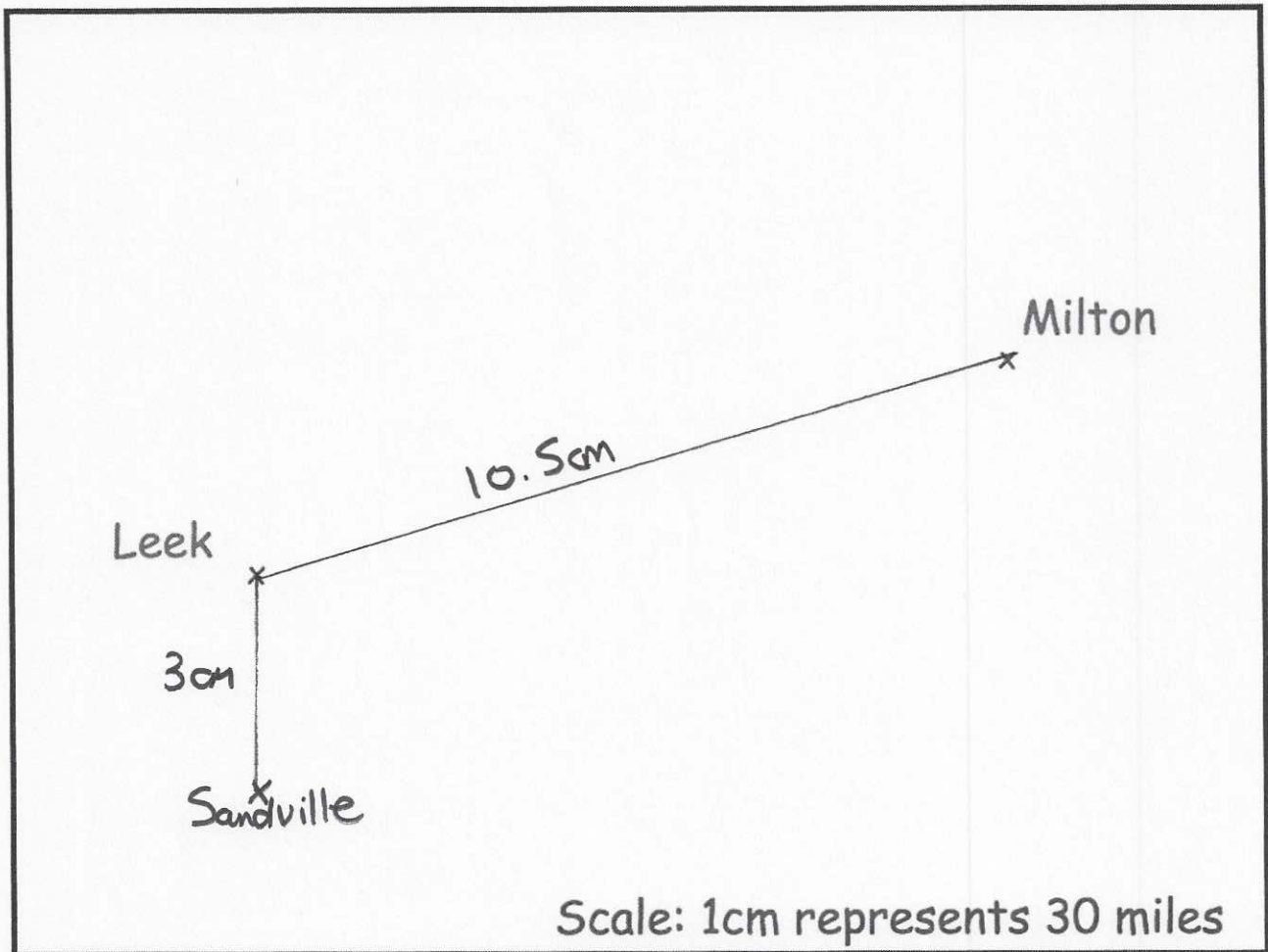
$$12 \times 60 = £720$$

$$\frac{720}{4000} =$$

$\frac{9}{50}$

(3)

12. Here is a map.
The map shows two cities, Leek and Milton.



Sandville is 90 miles due South of Leek

- (a) Show Sandville on the map

$$90 \div 30 = 3 \text{ cm}$$

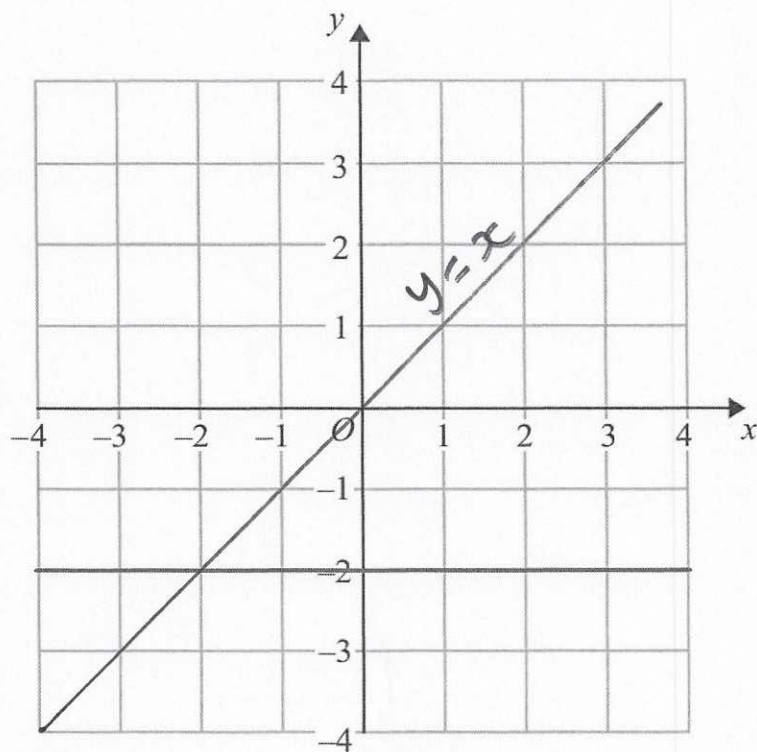
(1)

- (b) Use the map to calculate the actual distance from Leek to Milton.

$$10.5 \times 30 =$$

.....315.....miles
(2)

13.



(a) Write down the equation of the line shown above.

$$y = -2$$

(1)

(b) Draw $y = x$ on the grid above.

(1)

(c) Write down the gradient of the line with equation $y = 3x + 4$

$$3$$

(1)

14. The weights of books on a shelf are recorded in a stem and leaf diagram.

Key: 0|1 means 0.1kg

0		1	1	1	2	2	3	4	(4)	5
1		0	0	2	3	7				
2		2								

- (a) Write down the median.

0.4
.....
(1)

- (b) Work out the total weight of books on the shelf.

$$1+1+1+2+\dots+22$$

$$=$$

10.7kg
.....
(2)

A book weighing 1.8kg is added to the shelf.

Peter says the median will remain the same.

- (c) Is Peter correct? Explain your answer.

No, as the median will now be between the
8th & 9th number (0.45)
.....
(2)

15. The mean of five numbers is 8.2.
Four of the numbers are 8, 10, 12 and 10.

Work out the fifth number.

$$\begin{aligned} 8.2 \times 5 &= 41 \\ 41 - 8 - 10 - 12 - 10 \\ &= 1 \end{aligned}$$

1
.....
(2)

16. On Monday, Beth read $\frac{7}{10}$ of his book.

On Tuesday she read the other 42 pages to finish her book.

- (a) Work out how many pages there are in Beth's book.

$$\begin{aligned} 42 &= \frac{3}{10} \text{ of total} \\ 42 \div 3 \times 10 &= \end{aligned}$$

140
.....
(2)

Rosie read a book with 120 pages.

- (b) Find the ratio

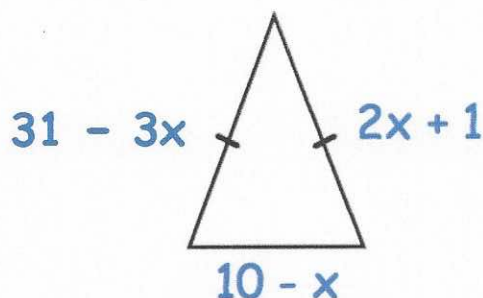
number of pages in Beth's book : number of pages in Rosie's book

Give your answer in its simplest form.

$$\begin{aligned} 140 : 120 \\ 70 : 60 \end{aligned}$$

7:6
.....
(2)

17. Below is an isosceles triangle.



Find the perimeter of the triangle.

$$p = 31 - 3x + 2x + 1 + 10 - x = 42 - 2x$$

$$31 - 3x = 2x + 1$$

$$31 = 5x + 1$$

$$5x = 30$$

$$x = 6$$

$$p = 42 - 2 \times 6 =$$

30cm
(5)

18. The population of the United Kingdom in 1950 was 5.06×10^7
The population of the United Kingdom in 2015 was 6.47×10^7

Work out how many more people live in the United Kingdom in 2015 than 1950.
Give your answer as an ordinary number.

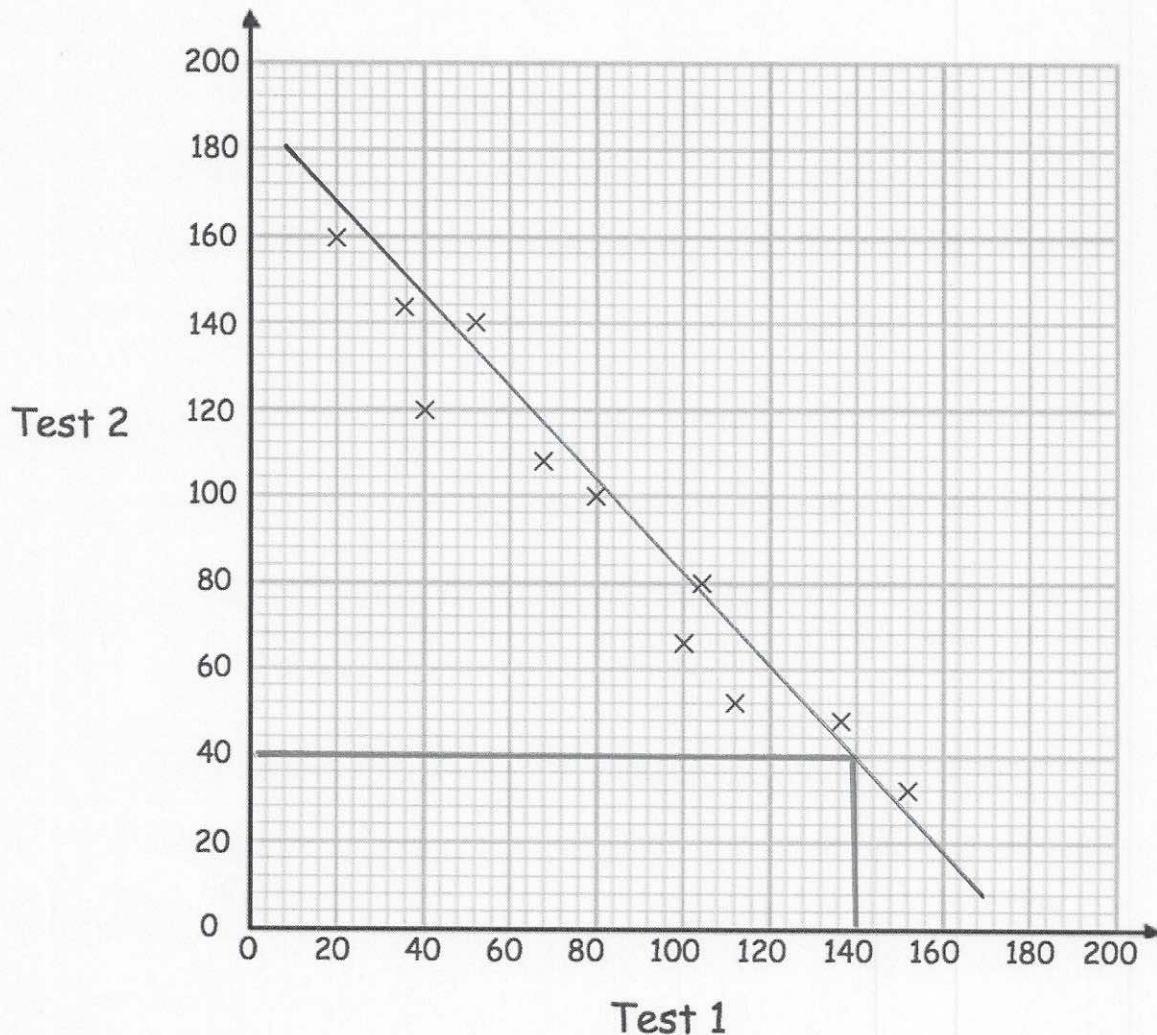
$$\begin{array}{r} 6.47 \times 10^7 \\ - 5.06 \times 10^7 \\ \hline 1.41 \times 10^7 \end{array}$$

14,000,000

(3)

19. Some rugby players take two tests, one measuring speed and the other measuring strength. Each test is marked out of 200.

The scatter graph compares the results.



- (a) What type of coordinate does this scatter graph show?

Negative

(1)

- (b) Draw a line of best fit on the scatter graph.

(1)

Brian scores 40 in Test 2.

- (c) Estimate his score in Test 1.

140

(1)

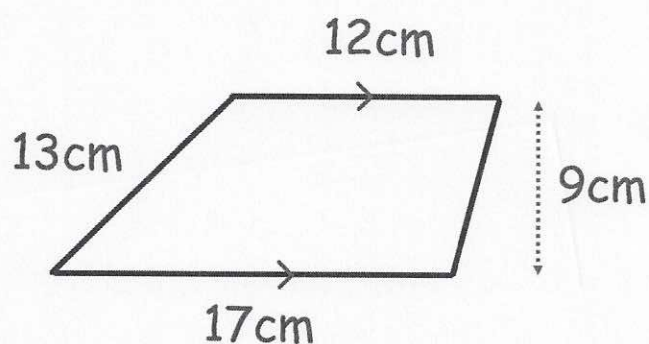
20. Expand and simplify $(x - 8)(x + 9)$

$$x^2 + 9x - 8x - 72 =$$

$$x^2 + x - 72$$

.....
(2)

- 21.



Calculate the area of the trapezium

$$\frac{12+17}{2} \times 9 =$$

$$130.5$$

.....cm²
(2)

22. James goes to an arcade.

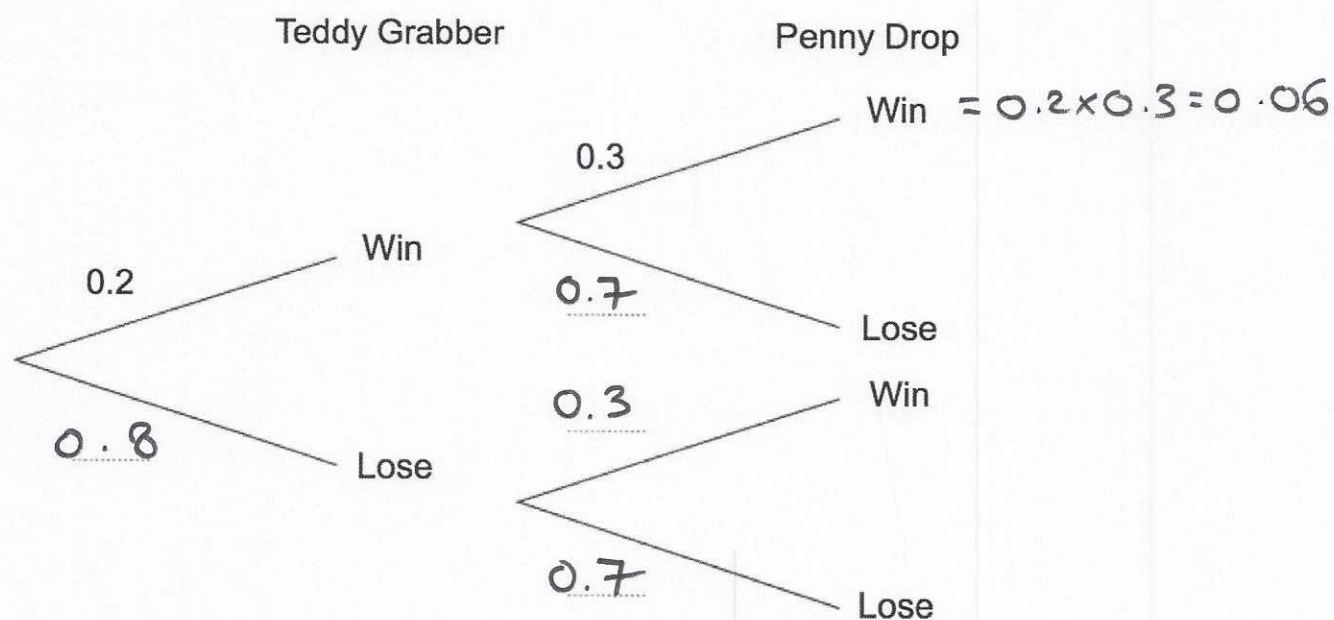
He has one go on the Teddy Grabber.

He has one go on the Penny Drop.

The probability that he wins on the Teddy Grabber is 0.2.

The probability that he wins on the Penny Drop is 0.3.

(a) Complete the tree diagram.



(2)

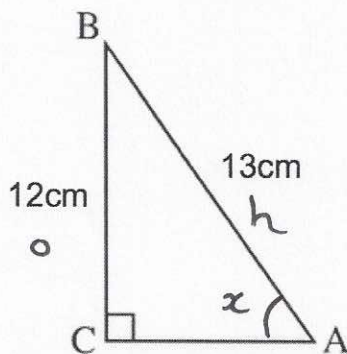
(b) Work out the probability that James wins on the Teddy Grabber and he also wins on the Penny Drop.

$$0.2 \times 0.3 = 0.06$$

0.06

(2)

23.



Calculate the size of angle BAC.

$$\sin x = \frac{12}{13}$$

$$x = \sin^{-1}\left(\frac{12}{13}\right) = 67.3801\dots$$

$$\underline{67.4}^\circ$$

(3)

24. The length of a line, l , was given as 2.8cm, round to 1 decimal place.

Complete the error interval for l

$$\underline{2.75} \dots \text{cm} \leq l < \underline{2.85} \dots \text{cm}$$

(2)

25. Solve $\frac{8x - 1}{2} = 3x + 11$

$$\begin{array}{r} -6x \\ \hline 8x - 1 = 6x + 22 \end{array}$$

$$2x - 1 = 22$$

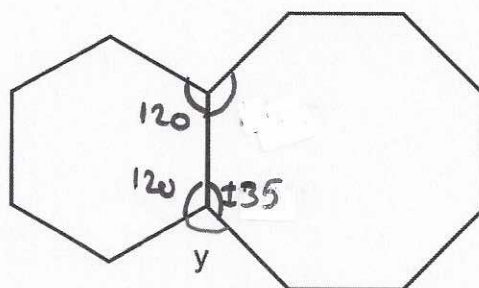
$$2x = 23$$

$$x = \frac{23}{2} =$$

$$x = 11.5$$

(3)

26. Shown is a regular hexagon and a regular octagon.



Calculate the size of angle y.

$$y = 360 - 135 - 120$$

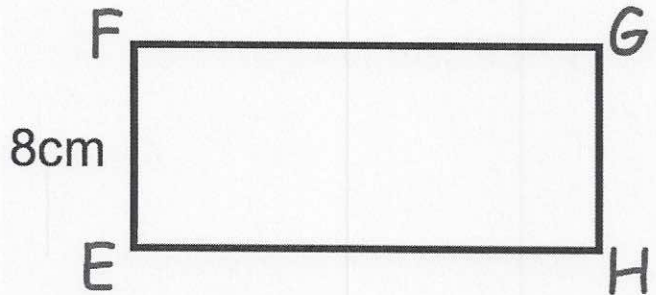
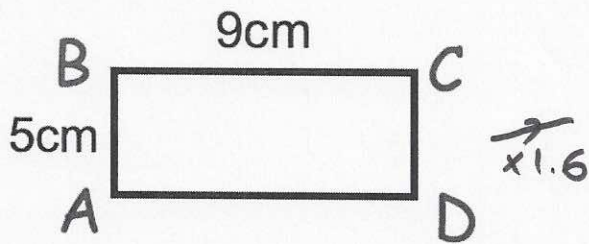
$$=$$

$$y = 105^\circ$$

(3)

27.

Not drawn accurately



Rectangles $ABCD$ and $EFGH$ are similar.

$$AB = 5\text{cm}$$

$$BC = 9\text{cm}$$

$$EF = 8\text{cm}$$

$$8 \div 5 = 1.6$$

Work out the length of FG .

$$9 \times 1.6 =$$

$$\underline{\hspace{1cm} 14.4 \hspace{1cm}} \text{cm}$$

(2)

28. Make x the subject of the formula $A = \sqrt[3]{\frac{4x}{5}}$

$$A^3 = \frac{4x}{5}$$

$$5A^3 = 4x$$

$$x = \underline{\hspace{1cm} \frac{5A^3}{4} \hspace{1cm}}$$

(3)