



# Aldenham School

# 11+ Sample Paper

## Subject: Maths

Time allowed: 45 mins

**Instructions:**

- 1. Write your answers in the spaces provided in this booklet*
- 2. Show sufficient method to show how you obtained your answers*
- 3. Calculators MUST NOT be used in any question.*
- 4. Rulers may be used.*

*Work steadily through the paper doing as much as you can straight away, then go back to work at the more difficult questions.*

Mark: \_\_\_\_\_ / 55

%: \_\_\_\_\_

1. Round the following numbers as stated

a) 146 to the nearest 10

.....  
[1]

b) 6283 to the nearest 1000

.....  
[1]

2. Work out the following calculations

a)  $246 \times 8$

.....  
[2]

b)  $2592 \div 4$

.....  
[2]

3. Fill in the gaps

a)  $\sqrt{64} = \dots$

b)  $\dots \times 30 = 240$

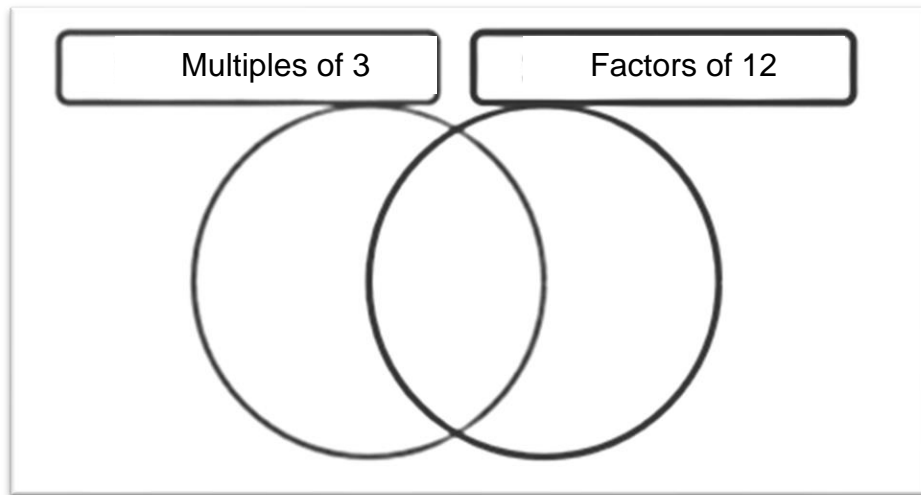
c)  $\dots \times 0.4 = 20$

d)  $28 - \dots = 30$

[4]

4. Place these seven numbers in the correct places in the Venn Diagram.

2      3      4      5      10      12      24



[3]

5. Jake buys 2 coffees, a milkshake and a cappuccino.

How much change does he receive from a £10?

Drinks Menu	
Tea.....	£1.40
Coffee.....	£1.60
Cappuccino.....	£1.90
Hot Chocolate....	£1.50
Fruit Juice.....	£1.20
Milkshake.....	£1.70
Smoothie.....	£1.30
Fizzy Pop.....	£1.00

£.....

[2]

6. A teacher is making toffee apples for his class' Hallowe'en party. He needs to make **24 toffee apples**.

He uses the following recipe which makes 8 toffee apples.

Ingredients
8 <u>red apples</u>
400g <u>caster sugar</u>
1 tsp lemon juice
4 tbsp <u>golden syrup</u>
red or black food colouring

a) How many tablespoons of golden syrup will he need?

.....  
[1]

b) He already has 1 kg of caster sugar.  
How many more grams will he need to buy?

.....grams  
[1]

7. In 2018 a charity raffle raised £480. In 2019 they raised 30% more.

How much did the charity raise in 2019?

£ .....  
[2]

8. Arthur's twin sisters are 4 years older than him. Altogether their ages add up to 77.

How old is Arthur?

.....  
[1]

9. Which calculation gives the largest result? Circle your answer.

$3 + 0 + 2 + 8$

$3 \times 0 + 2 + 8$

$3 + 0 \times 2 + 8$

$3 + 0 + 2 \times 8$

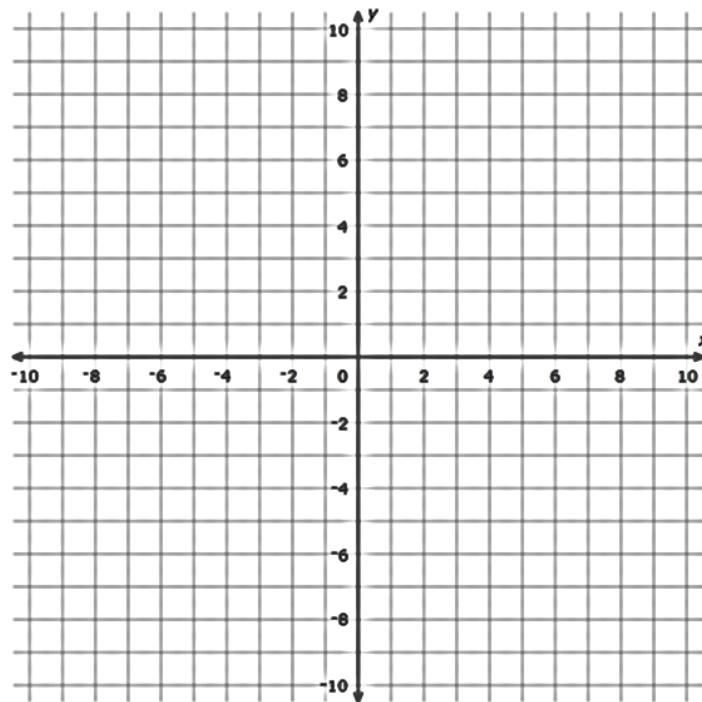
$3 \times 0 + 2 \times 8$

[1]

10. Three vertices of a rhombus are  $(-4, 2)$ ,  $(-1, 6)$  and  $(4, 6)$ .

10a. Plot these points on the axes below.

[2]



10b. Write down the co-ordinate of the missing vertex of the rhombus.

..... [1]

11. Circle the number below which is not a factor of 60?

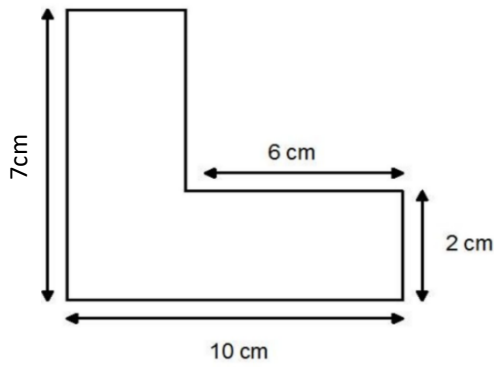
15

120

60

[1]

12. Find the area of this shape.



..... cm<sup>2</sup>  
[2]

13. Circle the smallest number in each list.

13a)            0.102            0.12            0.112            0.201

13b)            0.8             $\frac{3}{4}$             73%             $\frac{18}{25}$

[2]

14. Work out  $\frac{2}{3} - \frac{3}{10}$

.....  
[2]

15. What is 23% of 1200.

.....  
[2]

16. Put these fractions in ascending order of size, show workings.

$$\frac{3}{5} \text{ of } 30$$

$$\frac{7}{10} \text{ of } 20$$

$$\frac{2}{3} \text{ of } 24$$

.....

[2]

17. Given that  $a = 5$ ,  $b = 10$  and  $c = 2$  complete the following expressions with  $<$ ,  $>$  or  $=$ .

17a)  $2a - c$  .....  $c^3$

17b)  $3a^2$  .....  $8b$

[2]

18. Work out the angle marked  $x$ .

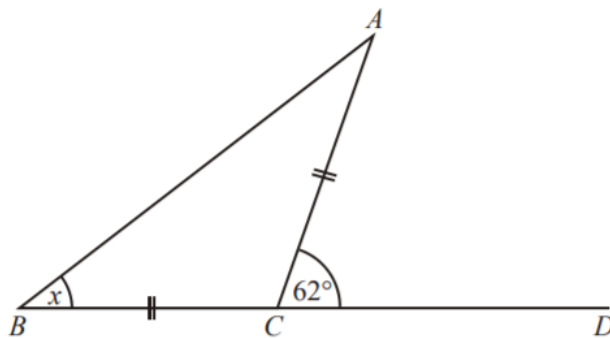


Diagram **NOT** accurately drawn

$x = \text{.....}^\circ$   
[2]

19a) Solve the following equation

$$\frac{x}{2} = 10$$

x = .....

[1]

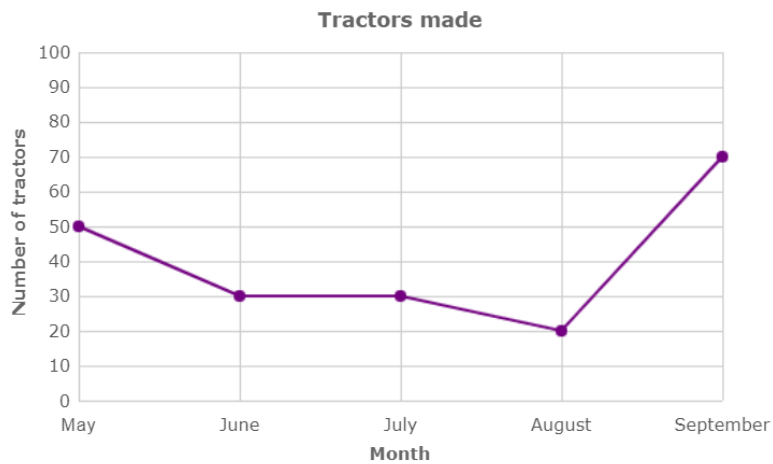
19b) Solve the following equation to find b.

$$2b - 25 = 41$$

b = .....

[2]

20. A farm equipment company kept a record of the number of tractors made each month.



20a) Find the mean number of tractors.

.....

[1]

20b) Including the October sales the new mean is 35. How many tractors were sold in October?

..... [2]



21. What fraction of these numbers are below the median?

2, 7, 10, 5, 4

.....

[2]

22. Given that **two teas and a coffee** cost £2.50 and **one tea and three coffees** cost £3.50.

How much does a single coffee cost?

..... P

[3]

23. A bridge is built across a river. One quarter of the bridge is over the left bank of the river and one third of the bridge is over the right bank.

The river is 84 m wide.

How long is the bridge?

..... m [3]

24. Write down all the numbers between 50 and 150 that have an odd number of factors?

..... [2]

**END**