



OUNDLE

School

EXAMINATION PAPER

13+ Academic Scholarship 2026

Mathematics Paper 1

Time allowed: 1 hour

Name: _____

Instructions

- Calculators are **NOT** allowed
- Write **ALL** your working and answers on this paper. Show enough working on each question to make it clear how you reached your answer
- Do not spend too long working on any one question
 - The marks available for each question are shown in square brackets []
 - Do not worry if you do not manage to complete every question
- You may work in pen or pencil

Question 1

- (a) A customer buys three items in a shop costing £3.28, £7.19, and £5.88. The customer pays for the items with a £20 note. Calculate how much change the customer should get.

Answer[3]

- (b) Calculate the mean cost of the three items the customer bought in part (a).

Answer[2]

- (c) The shop sells carrots at £1.60 per kg. Calculate the cost of a bag of carrots weighing 0.67kg. Round your answer to the nearest penny.

Answer[3]

Question 2 Work out the following, obeying the correct order of operations.

(a) $20 + 25 - 13 + 11$

Answer[2]

(b) $8 + (13 - 5) \div 2$

Answer[2]

(c) $4 - 5 + 2 \times 8$

Answer[2]

(d) $2 \times 3^2 + 80 \div 10 \div 2$

Answer[2]

Question 3 Use the fact that $45 \times 63 = 2835$ to work out the following

(a) 4.5×6.3

Answer[1]

(b) $283.5 \div 450$

Answer[1]

(c) 45×65

Answer[2]

(d) 90×63

Answer[2]

Question 4

(a) Write 40 as a product of its prime factors

Answer[2]

(b) List all of the factors of 40, in ascending order

Answer[2]

Question 5

Brian and Martin take the same test. Brian gets every 3rd question correct.

Martin gets every 5th question correct.

If the test contains 80 questions in total, how many questions did Brian and Martin both answer correctly?

Answer[2]

Question 6 Calculate the following. Your answers should be fully simplified and written as a mixed number where appropriate.

(a) $\frac{3}{5} + \frac{4}{9}$

Answer[2]

(b) $\frac{9}{14} - \frac{4}{35}$

Answer[2]

(c) $\frac{9}{22} \times \frac{44}{45}$

Answer[2]

(d) $\frac{11}{28} \div \frac{7}{8}$

Answer[2]

Question 7 If $a = 15$, $b = 4$ and $c = -6$, find the value of the following expressions

(a) $a + bc$

Answer[2]

(b) $\frac{2ab}{c^2-4}$

Answer[2]

(c) $a + 2b - 3c$

Answer[2]

Question 8 Fully simplify the following algebraic expressions

(a) $12t - 11s - t + 5 + 7s$

Answer[2]

(b) $3x^2 + 7x + 3 - x^2 + 8x - 4$

Answer[2]

(c) $(2x)^3 - 2x^3$

Answer[2]

(d) $7a - 2(a - 3c) - 4c$

Answer[2]

Question 9 Solve the following equations, leaving your answers as simplified improper fractions where necessary.

(a) $5x - 6 = 78$

Answer[2]

(b) $\frac{5x}{6} - 7 = 8$

Answer[2]

(c) $5(x - 6) = 78$

Answer[2]

(d) $\frac{5x-6}{7} + 8 = 9$

Answer[2]

(e) $5x - 6 = 7 - 8x$

Answer[2]

Question 10 For the following questions you **must write down an equation** and solve it.

- (a) I think of a number, subtract five, then multiply the result by 6.
I get the same answer when I had multiply the number by four and then add two.

What number did I start with?

Equation[1]

Solution[1]

- (b) Angela, Bess, and Dave are playing a game involving counters. They each start with 20 counters. At the end of the game, Angela has 5 more counters than Bess, and Dave has three times the number of counters that Angela has.

How many counters does Bess have at the end of the game?

Equation[2]

Solution[1]

Question 11

A farm has 25 cows and 60 sheep.

- (a) What is the ratio of cows to sheep on the farm? Give your answer in its simplest form.

Answer[1]

The ratio of pigs to chickens is 2: 7.

The ratio of chickens to goats is 5: 1.

- (b) Work out the ratio of pigs to goats.

Answer[2]

The farm harvests the crops wheat, barley, and corn. The weight, in tonnes, of the harvested crops are in the ratio 2:5:8.

- (c) What fraction of the harvested crops does the wheat represent?

Answer[1]

- (d) If 9 more tonnes of corn were harvested than wheat, how many tonnes of barley were harvested?

Answer[2]

Question 12

A theatre box-office is selling tickets for a show. The theatre has 400 seats, and tickets cost £30, with discounts available:

- Concessions (over 65s/under 25s) – 20% off
- Children (under 13s) – half price

On the opening night performance, all of the tickets are sold:

- 42 children's tickets were sold
- $\frac{3}{16}$ of the tickets sold were concession tickets
- All other tickets were sold at full price

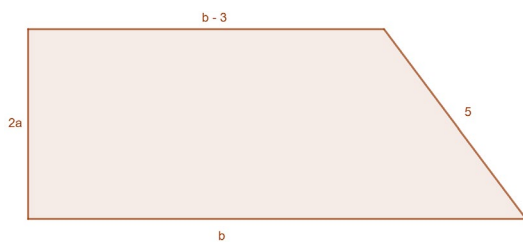
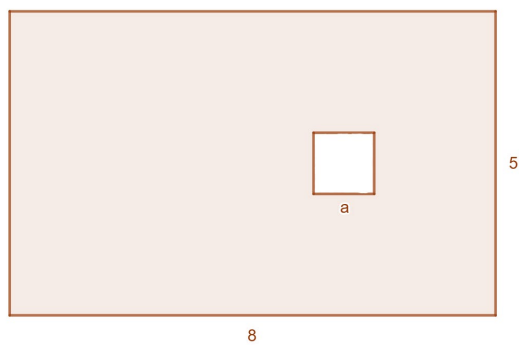
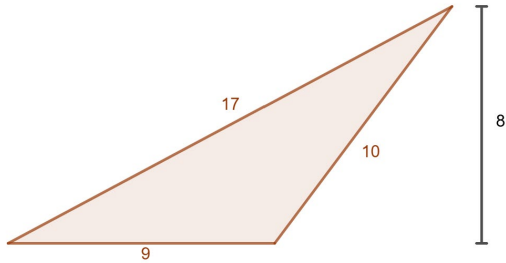
Calculate the total of the ticket sales for the opening night performance.

Answer[8]

Question 13 The diagrams below (not drawn to scale) show a triangle, a rectangle with a square removed, and a trapezium. The lengths given are in cm.

All three shaded areas are equal.

Calculate the length of the longer parallel side, b , of the trapezium.



Answer[6]