Fortrose Academy

Mathematics Department

CfE Levels 3/4

S1 Essential Skills

Homework Booklet

It is important that pupils establish a habit of regular practice to consolidate skills learned in class. This revision homework is best restricted to four questions per night. Full solutions are provided on website. Pupils should refer to solutions each night, to mark their work, to help when stuck, and to note the layout and rigour of the teacher solution. Pupil's should complete all corrections

Shade question numbers in the checklist each night green, amber or red to monitor strengths and weaknesses, as shown:

	Maths Homework Checklist (Green/Amber/Red)																													
1	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
2	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
3	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4

Maths Homework Checklist (Green/Amber/Red)

	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
1	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
2	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
3	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
4	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
5	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
6	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
7	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
8	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
9	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
10	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
11	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
12	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
13	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
14	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
15	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
16	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
17	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
18	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
19	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
20	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
21	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
22	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
23	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
24	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
25	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
26	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
27	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
28	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
29	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
30	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
31	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
32	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
33	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
34	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4
35	A	1	2	3	4	B	1	2	3	4	C	1	2	3	4	D	1	2	3	4	E	1	2	3	4

Set 1

1A

1) Write in figures: sixteen thousand and one

2) Write in words 3 040

3) Calculate 6 479 + 3 217

4) Calculate 6 704 – 4 828

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1B

1) Write in figures: eight hundred thousand and eighty

2) Write in words 5 801

3) Find the difference of 8 481 and 3 544

4) Find the sum of 92363, 4878 and 12946

1C

1) Write in figures: ten million, one hundred thousand

2) Write in words 20 300

3) Calculate 7045 x 4

4) Calculate 9163 – 3195 - 5899

1D

1) Write in figures: one hundred million and ten

2) Write in words 40 050

3) Find the product of 8 and 519

4) Calculate 1200 ÷ 8

1E

1) Write in words 10 010 010

2) Write in figures 100 million

3) Calculate 2620 ÷ 4

4) Find the difference of 4000 and 3592

Set 2

2A

1) Write in figures: nine thousand and eighty one

2) Find the sum of 5 768 and 6 742

3) Calculate 5 730 – 1 782

4) Find the product of 4 153 and 7

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2B

1) Write in figures: two hundred and fifty thousand and five

2) Calculate 43 136 ÷ 8

3) Calculate 80 050 – 3 907

4) Calculate 814 x 6

2C

1) Write in figures: four million, six hundred and two thousand, four hundred

2) Calculate 59 x 32

3) Calculate 43 x 20

4) Calculate 120 ÷ 40

2D

1) Find the product of 186 and 14

2) Find the product of 310 and 50

3) Calculate 27 000 ÷ 30

4) Calculate 936 ÷ 13

2E

1) Calculate 5347 x 67

2) Calculate 16 x 700

3) Calculate 6 400 ÷ 200

4) Calculate 1391 ÷ 17

Set 3

3A

1) Find the product of 9 300 × 800

2) Find the Lowest Common Multiples of 6 and 12

3) State the highest common factor of 25 & 45

4) Why is 1 not a prime number?

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3B

1) Calculate 5270 ÷ 23

2) Find the Lowest Common Multiples 4 and 9

3) State the highest common factor of 4 & 12

4) List all the prime numbers from 1 to 100

3C

1) Calculate 5972 ÷ 46

2) Find the Lowest Common Multiples 4,6 and 10

3) State the highest common factor of 14, 42, 49

4) What is the only even prime number?

3D

1) Calculate 3 × 4 × 5 × 6

2) Find the Lowest Common Multiples 5,6 and 8

3) What is the first prime number bigger than 20?

4) What are the first twenty square numbers?

3E

1) Calculate 368 100 ÷ 900

2) State the highest common factor of 8, 32, 36

3) How many prime numbers are there between 1 and 100?

4) What are the first 5 cubic numbers?

Set 4

4A

1) How can you tell if a number is odd?

2) Calculate 300^2

3) What are the prime factors of 40

4) Find the product of 3800 and 6000

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4B

1) How can you tell if a number is even?

2) Calculate 6000^2

3) Calculate 3^4

4) What are the prime factors of 52

4C

1) Write the first 5 triangular numbers?

2) Calculate 32^2

3) Calculate 6^3

4) What are the prime factors of 18

4D

1) Write the first 10 natural numbers.

2) Calculate 537^2

3) Calculate 2^9

4) What are the prime factors of 25

4E

1) Write the first 10 whole numbers.

2) Calculate 10^6

3) Express 8 as a product of prime factors in index form

4) Find $\sqrt{1600}$

Set 5

5A

1) Calculate 20^3

2) Express 36 as a product of prime factors in index form

3) Find $\sqrt{25000000}$

4) Find the product of 69200 and 840

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5B

1) Express 36 as a product of prime factors in index form

2) Find $\sqrt[3]{8000}$

3) Calculate $522000 \div 600$

4) What is the value of $5 \times 3 - 12 \div 4 + 8$

5C

1) Find $\sqrt[3]{27000000}$

2) What is the value of $5 \times 4 - 2 \times 3 + 16 \div 4$

3) Calculate $45930 \div 280$

4) Find 3241×237

5D

1) What is the value of $30 - (5 \times 2^3 - 15)$?

2) Calculate $986 \times 20 \times 50 \times 40$

3) Calculate 10 million $\div$ 50 000

4) Find $\sqrt[4]{81} \times \sqrt[3]{125}$

5E

1) Find $\sqrt[5]{32}$

2) What is the value of $(3 + 2)^2 - 5 \times 3 + 2^3$

3) Calculate $7716000 \div 41000$

4) Calculate $20 \times 30 \times 87 \times 50$

Set 6

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6A

1) What is the value of $(4^2 - 6 + 5) \div (3^2 + 8 - 7 \times 2)$

2) Calculate 19.52 + 14.6

3) Calculate 23.7 – 12.61

4) Calculate 42.5 x 8

6B

1) What is the value of $(7 - \sqrt{9}) \times (4^2 - 3 + 1)$

2) Calculate 298.4 – 37.9

3) Calculate 16.3 x 7

4) Calculate 6 ÷ 5

6C

1) What is the value of 36 ÷ (54 – 48) + 12

2) Calculate 7.21 + 0.8

3) Calculate 2 - 0.060

4) Calculate 7.42 ÷ 5

6D

1) What is the value of $19 \times 3 + (84 \div 21)^2$

2) Calculate 9.4 + 7 + 5.33

3) Calculate 0.009 - 0.00021

4) Calculate 8.9 ÷ 4

6E

1) What is the value of (18 + 24) x (16 – 12)

2) Calculate 98 - 0.098

3) Calculate 179.3 + 0.159 + 8.928 + 0.058

4) Calculate 9.86 ÷ 8

Set 7

7A

1) What is the value of $((3 + 5)^2 \div 8) + 9$

2) Calculate $1.37 \div 4$

3) Calculate $43 - 0.073$

4) State the highest common factor of 30, 36, 48

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7B

1) Calculate $934 \div 9$

2) Calculate $0.8 \div 1000$

3) Calculate 0.0054×100

4) Find the Lowest Common Multiples 2,7 and 9

7C

1) Calculate $5320 \div 3$

2) Calculate $9 \div 1000$

3) Write the following in figures: two million, five hundred thousand, six hundred & seventeen

4) Find $\sqrt[3]{8000000}$

7D

1) Calculate $17 \div 3$

2) Calculate $4.2 \div 100$

3) Calculate 5.213×1000

4) Calculate 4770×67000

7E

1) Calculate $133 \div 6$

2) Calculate 9.8×1000

3) Calculate $64.1 \div 100$

4) What is the value of $(2^4 + (16 - 3 \times 4)) \div ((6 + 3^2) \div (7 - 4))$

Set 8

8A

1) Calculate $5 \div 6$

2) Calculate $0.8 \div 1000$

3) Calculate 0.3×900

4) Write the following in figures: eleven million, eleven thousand

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8B

1) Calculate $84 \div 400$

2) Calculate 40×0.30

3) Find the sum of the first five prime numbers

4) Calculate $4650 \div 180$

8C

1) Calculate $0.8 \div 4000$

2) Calculate 0.034×3000

3) 230×45000

4) What is the value of $3^2 + 4 \times (61 - 39) \div 8$

8D

1) Calculate $0.54 \div 100$

2) Calculate 46.8×700

3) Calculate $5 + 18.04 + 9.08 + 0.067$

4) What is the square root of one million

8E

1) Calculate 390×12.7

2) Calculate $76 \div 900$

3) Calculate 30^5

4) What are the prime factors of 20?

Set 9

9A

1) Calculate $0.2 \times 0.3 \times 0.4$

2) Calculate $0.042 \div 0.0007$

3) Calculate $369 \div 30$

4) Order smallest to largest 13.131, 1.3131, 131.31, 1.3113, 1.1313

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9B

1) Calculate 0.05×0.008

2) Calculate $50 \div 0.02$

3) Calculate 5.67 x 40

4) Write 6 units and 4 hundredths as a decimal

9C

1) Calculate 0.4^2

2) Calculate 34.6 x 83

3) Write 76 hundredths as a decimal

4) Calculate 4.05 ÷ 0.8

9D

1) Calculate 0.2^3

2) Calculate 9.34 x 4.7

3) Calculate 342 ÷ 600

4) Subtract 0.56 from 18

9E

1) Calculate 0.05^2

2) Calculate 5.09 x 78.6

3) Find $\sqrt[2]{0.16}$

4) Order smallest to largest 3.4115, 3.415, 3.45, 3.41115

Set 10

10A

1) Copy and complete these equivalent fractions $\frac{5}{7} = \frac{}{14} = \frac{20}{}$

2) Simplify $\frac{16}{20}$

3) Find $^1/_7$ of £5

4) Calculate 0.4^3

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10B

1) Write as a mixed number $\frac{25}{3}$

2) Evaluate $\frac{1}{3} + \frac{1}{6}$

3) Calculate 2.76 x 3000

4) What is $(6 + (4^3 \div 8)^2) \div (131 - 124)$

10C

1) Copy and complete these equivalent fractions $\frac{1}{5} = \frac{}{35} = \frac{9}{}$

2) Simplify $\frac{9}{15}$

3) Write as a top heavy fraction $2\frac{5}{8}$

4) Evaluate $\frac{3}{4} - \frac{3}{8}$

10D

1) Simplify $\frac{64}{72}$

2) Write as a mixed number $\frac{27}{4}$

3) Calculate to the nearest penny $^3/_5$ of £8.66

4) Order smallest to largest 9.1, 9.01, 9.101, 9.0101, 9.1101

10E

1) Copy and complete these equivalent fractions $\frac{5}{8} = \frac{10}{} = \frac{}{48}$

2) Simplify $\frac{20}{35}$

3) Write as a top heavy fraction $3\frac{5}{6}$

4) Calculate 10 x ⅓

Set 11

11A

1) Write as a mixed number $\frac{351}{6}$

2) Write as a top heavy fraction $1\frac{2}{3}$

3) Evaluate $\frac{5}{8} + \frac{5}{7}$

4) Calculate the length of time between 7.40 a.m. and 10.24 a.m.

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11B

1) Write as a top heavy fraction $4\frac{3}{4}$

2) Evaluate $\frac{7}{10} - \frac{2}{3}$

3) Evaluate $\frac{1}{3} + \frac{3}{5}$

4) Write 15 00 in twelve-hour notation.

11C

1) Evaluate $\frac{3}{15} + \frac{3}{10}$

2) Find $^3/_8$ of £9

3) Write 8 a.m. in twenty-four hour notation.

4) Change 2.5 hrs to hours and minutes

11D

1) Evaluate $\frac{5}{8} - \frac{3}{10}$

2) Find $\frac{1}{3} \times \frac{4}{5}$

3) Change 1 hr 45 mins to hours

4) Find $\sqrt[2]{0.25}$

11E

1) A tank holds 1600 litres of oil when it is full. If it is $^1/_4$ full, how many litres have been used?

2) Calculate $12 \times \frac{7}{8}$

3) Write 5.15 p.m. in twenty-four hour notation.

4) Write $2^1/_3$ hrs in hours and minutes.

Set 12

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12A

1) Find $\frac{1}{2} \times \frac{6}{7}$

2) Calculate the length of time between 06 55 and 14 30

3) Write 15 00 in twelve-hour notation.

4) Evaluate 0·0192 ÷ 0·003

12B

1) Calculate ⅔ × 7

2) Change 4.75 hrs to hours and minutes

3) What is the number that is $^7/_{100}$ up from 3·26 ?

4) Calculate 0·6 x 5000 x 0·4

12C

1) Write $^5/_6$ hr in minutes

2) Convert 576 hours into days and hours

3) Calculate 90 ÷ 500

4) Calculate 0.5^4

12D

1) Find $\frac{1}{3} \times \frac{3}{4}$

2) Change 48 mins to hours

3) Convert 4 hours 50 minutes into minutes

4) Write as a mixed number $\frac{1392}{9}$

12E

1) Calculate the length of time between 17 43 and 21 17

2) Find $^{11}/_{20}$ of £50.20

3) Convert 5 minutes 30 seconds into seconds

4) Find $\frac{9}{10} \times \frac{4}{15} \times \frac{1}{2}$

Set 13

13A

1) Find $\frac{2}{5} \times \frac{5}{8}$

2) Write $^5/_{12}$ hr in hours and minutes

3) Find $(-3\cdot1) + 4\cdot2 + (-2\cdot7)$

4) $5 + ((11 + 4^2) \times (12 \div 3)) - 20$

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13B

1) Write 08 34 in twelve-hour notation.

2) Convert 536 minutes into hours and minutes

3) Find $1\cdot7 - (-3\cdot4) + (-2)$

4) State the highest common factor of 12, 32, 40

13C

1) Change 2.25 hrs to hours and minutes

2) Calculate $(-0\cdot8) \times 0\cdot7$

3) Find $\sqrt[2]{0.49}$

4) Find $\left(\frac{2}{3}\right)^3$

13D

1) Change 3 hrs 12 mins to hours

2) Calculate $0\cdot7 \times (-500) \times 0\cdot3$

3) Find the product of 52.6×3.8

4) Arrange the following fractions in ascending order $^7/_{16}$, $^3/_8$, $^5/_{12}$, $^{23}/_{48}$

13E

1) Write $^7/_{10}$ hr in hours and minutes

2) What is the value of $(3^3 - 2 \times 7) + (5 \times 3 - 2^2)$

3) Calculate $(-0.2)^2$

4) Express $^{11}/_8$ as a decimal

Set 14

14A

1) Calculate the length of time between 4.50 a.m. and 8.33 p.m.

2) Calculate (-60) × (-0·1) × 700

3) Find (18 – (43 – 28)) × 4 + 5^3 – 24 ÷ 8

4) Find (-35.4) × (-6.8)

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14B

1) Find $\frac{2}{3} \times \frac{5}{8} \times \frac{3}{10}$

2) Write $3^2/_5$ hr in hours and minutes

3) Find ((–3) – (–9)) ÷ (–2)

4) Find 0.785 x 0.057

14C

1) Write 12 01 in twelve-hour notation.

2) Calculate (-427) ÷ (-70000)

3) Arrange the following fractions in ascending order $^7/_{30}$, $^{13}/_{60}$, $^2/_9$, $^{24}/_{15}$

4) Write as a mixed number $\frac{782}{8}$

14D

1) Convert 5 hours 40 minutes into minutes

2) Change 5.1 hrs to hours and minutes

3) Find 7^3 ÷ ((74 – 4) ÷ (2 × 5)) + 21

4) Find $\frac{4}{7} + \frac{10}{21} - \frac{3}{14}$

14E

1) Find $\frac{3}{4} \times \frac{5}{6} \times \frac{4}{5}$

2) Write 11.45 p.m. in twenty-four hour notation.

3) Write $2^2/_3$ hr in hours and minutes

4) Simplify $\frac{8 \times (-4) \times (-2)^2}{(-12) \times (-2)}$

Set 15

15A

1) Write 00 01 in twelve-hour notation.

2) Write $^1/_{20}$ as a decimal

3) Find (-2) × (-3) + (-1) × (-3)

4) 7600 x 8000

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15B

1) Convert 4 days 16 hours into hours

2) Find $\left(\frac{2}{10}\right)^5$ as a decimal

3) List all the prime numbers between 20 and 50

4) Calculate (–0·007) ÷ (–0·07).

15C

1) Find 55 ÷ ((15 + 18) ÷ 3) – 6^2 × 2

2) Arrange the following fractions in descending order $^4/_9, \, ^1/_3, \, ^2/_7, \, ^1/_5$

3) Write 0.9 as a fraction in its lowest terms

4) Find 2·58 x 0·247

15D

1) Convert 5 months 15 days into days

2) Express $240\frac{5}{17}$ as an improper fraction

3) Find (–2·38) – (- 9·17) – 4·46

4) Find 0·7 x 0·19 x 0·87

15E

1) Write 0.07 as a fraction in its lowest terms

2) Write $^{27}/_{50}$, 0.62, 0.575, $^3/_4$ in descending order

3) Find (–1·08) – (–5·02)

4) Find $\frac{1}{4} + \frac{1}{3} + \frac{1}{2}$

Set 16

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16A

1) Write 12.20 p.m. in twenty-four hour notation.

2) Find $(-1)^{71}$

3) Write $^{19}/_{20}$ as decimal

4) Find $\frac{1}{2} + \frac{1}{4} - \frac{1}{8}$

16B

1) Change 4.15 hrs to hours and minutes

2) Write 0.24 as a fraction in its lowest terms

3) A show starts at 4.45pm and lasts for two and three quarter hours. At what does it end?

4) Calculate 49 – (-16.78) – (- 0.873)

16C

1) Convert 6 weeks 5 days into days

2) Find $\left(\frac{1}{3}\right)^4$

3) Write $^7/_{25}$ as decimal

4) Find $\frac{7}{8} - \frac{1}{2} - \frac{1}{4}$

16D

1) Find 11 + 12 ÷ 3 × (17 – (2 × 2^5))

2) Change 9 mins to decimal hours

3) Today is the 24th of May. How many days till July 6th?

4) Find 7.38 ÷ (-3000)

16E

1) Write 0.035 as a fraction in its lowest terms

2) Write $^{27}/_{60}$ as decimal

3) Find $\frac{1}{3} + \frac{4}{5} - \frac{1}{2}$

4) Change 2 hours 51 mins to decimal hours

Set 17

17A

1) Find $(90 \div (9 - 3^3) - 15) \times 2 \div 4$

2) Find $\frac{3}{8} \times \frac{4}{5} \times \frac{5}{9}$

3) Write $^{126}/_{200}$ as decimal

4) Today is September 8th. What was the date 3 weeks ago?

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17B

1) Write 0.006 as a fraction in its lowest terms

2) Calculate 4.1^2

3) Write as a mixed number $\frac{110}{4}$

4) Convert 370 weeks into years and weeks

17C

1) Find $\frac{3}{4} + \frac{4}{5} - \frac{1}{3}$

2) Calculate $(-0.009) \times 0.003$

3) Find $((10 + 14) \div 6) + ((15 - 3^3) \div 6) \times 5$

4) Find $54700 \div 80$

17D

1) Change 0.35 hours to minutes

2) Find $(-19.4) \times (-600)$

3) Find $^1/_6$ of a year

4) Write 0.55 as a fraction in its lowest terms

17E

1) What does the 9 stand for in the number 3·019

2) What is $(-0.1)^4$

3) Find $9^2 \times ((6 - 3) + 1) - 16 \times 4$

4) Find $(-829) \div 600$

Set 18

18A

1) How many hours are in October?

2) Simplify 15 x t

3) What is the value of $31 - 15 \div 5 + 9^2 \div (-10 + 13)$

4) Find $(-3000) \times 0.0675$

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18B

1) Find $21 - 79 \div (5 + (4 \times 2^4 + 10))$

2) Simplify c x c

3) Find $^{11}/_{19}$ of 3800kg

4) Change 9.2 hours to seconds

18C

1) Simplify 5g – 2r + 5g – r

2) Calculate $(-0.05)^3$

3) Find $66.9 \div 20000$

4) Work out $\frac{1}{7}\left(\frac{1}{3} + \frac{1}{5}\right)$

18D

1) Simplify $9b^2 + p^2 - 8b^2 - 2p^2$

2) Find $(-20)^3 - (-10)^4$

3) Simplify $^{54}/_{360}$

4) Find $(-8.345) - (-6.789)$

18E

1) Simplify $a^2 - 5b^2 + 3a^2 + 5b^2 - 4a^2$

2) Find $\frac{(-40)x(-300)}{(-1200)}$

3) Find $-5 + (-3.139)$

4) Change to an improper fraction $12^5/_6$

We learn more by looking for the answer to a question and not finding it than we do from learning the answer itself

Set 19

19A

1) How many mins are in December?

2) Simplify $(-8y^2) - (-8y^2)$

3) Simplify $k \times k \times 6$

4) Find $^1/_2$ of $^2/_3$ of 12

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19B

1) Simplify $-(-3x) - (-x)$

2) Simplify $3p \times 2q$

3) Find $\frac{(-4)x42.75}{(-2000)}$

4) What is $95 - 22 \times 6 + 39 \div 13 \div 3$

19C

1) Simplify $3w \times 2w \times 7$

2) Work out $\frac{1}{7}\left(\frac{2}{3} - \frac{1}{2}\right)$

3) Beans cost £1.70 per kilogram. If 2.4kg are bought. How much change is recieved from £5?

4) Find $(-3)^3 - 3^3 + (-3) \times 3$

19D

1) Simplify $n \times 3 \times n \times n$

2) Calculate $1092 \div 42$

3) Work out $5 - \frac{10}{-2}$

4) Explain briefly why it is not possible to work out $\sqrt{-25}$

19E

1) Simplify $(8h)^2$

2) At a disco, the red light comes on every 4 secs, the blue light every 6 secs and the yellow light every 9 secs. If they are all switched on at the same time, how long will it be before all 3 lights are on together again?

3) Express 36 as a product of prime factors

4) Write $2^{25}/_{100}$ as a decimal

Set 20

20A

1) Simplify $(2m)^3$

2) Simplify $12b \div b$

3) Multiply out the bracket: $3(6v + 1)$

4) Write in figures $2^3/_4$ million

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20B

1) How many seconds are in June?

2) Simplify $(2st)^2$

3) Find $^1/_2 \times {}^2/_3 \times {}^3/_4 \times {}^4/_5 \times {}^5/_6 \times {}^6/_7 \times {}^7/_8 \times {}^8/_9 \times {}^9/_{10}$

4) Simplify $30c \div c$

20C

1) Simplify $(4ab)^2 \times ab$

2) Simplify $16gh \div 8h$

3) Multiply out the bracket: $p(q + 7)$

4) Write 39 mins in hours

20D

1) Simplify $6m \times 4n^2$

2) Evaluate the expression $x + y - z$ when $x = 2$, $y = 3$ and $z = 4$

3) Simplify $3xy \div y$

4) Expand the bracket: $r(3w + 8a)$

20E

1) Simplify $4de \times 4de$

2) Simplify $22vw \div 11vw$

3) Remove the bracket: $4w(10w - v)$

4) Find $\frac{1}{3} of \left(\frac{4}{5} - \frac{1}{2}\right)$

Set 21

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21A

1) Simplify $8x^2y \times 3xy$

2) Simplify $30lmn \div 3lm$

3) Remove the bracket: $g(g - h - 9r)$

4) Write $6^3/_5$ as a top heavy fraction

21B

1) How many hours are in a year?

2) Simplify $4p^2 \div p$

3) Expand the bracket: $-5(2b - 4)$

4) Evaluate the expression $2x + 4y - 3z$ when $x = 2$, $y = 3$ and $z = 4$

21C

1) Find $3 \times 2^2 + (48 \div 6 + (7 - 2))$

2) Simplify $8a^2b \div b$

3) Expand the bracket: $-f(6f - 1)$

4) Express 98 as a product of prime factors

21D

1) Find the total cost: 2.5 tonnes of sand @ £32.30 per tonne

                              10 bags of cement @ £3.40 per bag.

2) Remove the bracket: $-3c(2c - 3)$

3) Work out $\frac{1}{3} \times \frac{3}{5} \times \frac{5}{7}$

4) Convert 840 days into years, months and days

21E

1) Expand the bracket: $-4y(2x - 3y + 2)$

2) Evaluate the expression $5y - 4z + x$ when $x = 2$, $y = 3$ and $z = 4$

3) Work out $\frac{3}{5}\left(\frac{4}{9} - \frac{1}{6}\right)$

4) Calculate $845 \div (-50)$

Set 22

22A

1) Evaluate the expression $a + b + c$ when $a = -1$, $b = 5$ and $c = -2$

2) Simplify $8x^2y \times 3xy$

3) Expand the brackets and simplify: $80d + 10(7d + e)$

4) Work out $(-0.4)^2 - (-0.2)^3$

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22B

1) Expand the brackets and simplify: $3(y + 4) - 4y(3y - 3)$

2) Simplify $10a^2b \div 5a$

3) Find the Lowest Common Multiples 3,4 and 5

4) Find $\sqrt[2]{0.81}$

22C

1) Change 130 hours to seconds

2) Expand the brackets and simplify: $7w - 3(3 - 3w)$

3) Simplify $2p^2 \times p$

4) Evaluate the expression $3a + 4b - 3c$ when $a = -1$, $b = 5$ and $c = -2$

22D

1) Expand the brackets and simplify: $\frac{1}{2}g(4 - 2g)$

2) Calculate $(-1.2)^2$

3) Convert 6 years 9 months into months

4) Work out $\frac{2}{3}\left(\frac{1}{2} + \frac{1}{4}\right)$

22E

1) Expand the brackets and simplify: $-3z(5z - 3y)$

2) State the highest common factor of 30, 45, 55

3) Evaluate the expression $a^2 + (b - c)^2$ when $a = -1$, $b = 5$ and $c = -2$

4) Calculate $(-0.8) \times 50 \times (0.8)^3$

Set 23

23A

1) Expand the brackets and simplify: 5n – 3(1 – 2n)

2) Find 0.07 ÷ 0.4

3) Solve 4x = 36

4) Calculate the size of the missing angle: $a°$ 57°

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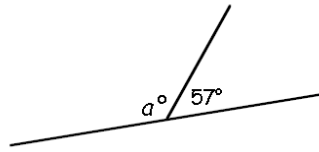
23B

1) Solve 2k – 1 = 17

2) Calculate the size of the missing angle: 37° 97° $b°$

3) What is the size of the (smaller) angle between the hands of a clock at 1 o'clock ?

4) Evaluate the expression $2xy + w^3$ when w = –1, x = 3, y = –2 and z = 2
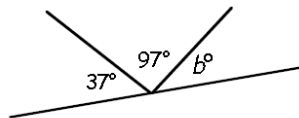
23C

1) How many minutes are in a year?

2) Find 50 ÷ 0.009

3) Simplify $4k^2 - 2(k - 5k^2)$

4) Solve 12p + 6 = 30

23D

1) Calculate 400 ÷ 18

2) Solve 5h – 2 = 18

3) Calculate the size of the missing angle: 58° $c°$

4) Evaluate the expression $(wz - yx)^2$ when w = –1, x = 3, y = –2 and z = 2
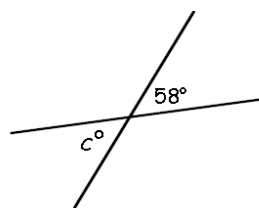
23E

1) Solve m + 9 = 0

2) Calculate the size of the missing angle: $d°$ 93° 158°

3) Evaluate the expression $w^2 - z^2 - y^2 + x^2$ when w = –1, x = 3, y = –2 and z = 2

4) Work out 0.35 of £5

Set 24

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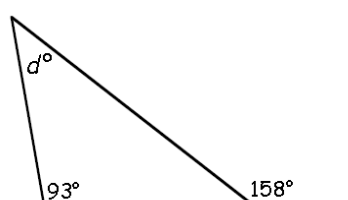
24A

1) Solve 25 + p = -25

2) Calculate the size of the missing angle:

3) Calculate (-0.03)²

4) Convert 203 days into weeks
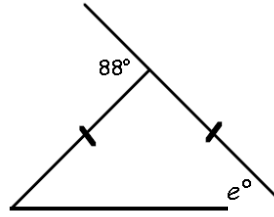
24B

1) Solve 6x + 5 = 53

2) Calculate the size of the missing angle:

3) What does the 9 stand for in the number

4) Work out 3.25 – 6.78 + 4
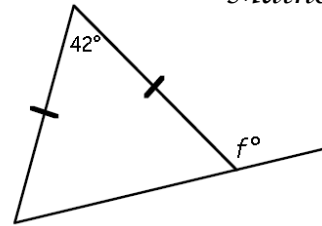
24C

1) Solve 2y – 10 = 0

2) How many degrees are there in 1 full turn ?

3) Evaluate the expression $3(2w + x) + 2z^2$ when w = –1, x = 3, y = –2 and z = 2

4) Martin has a DVD which lasts for 135 minutes. If he starts watching it at 8.50 pm, when will it finish?

24D

1) Solve 2(g + 1) = 8

2) **COPY** the following & fill in the sizes of **all** missing angles:

3) Calculate (–0·08) × (–0·01)

4) Convert 1 year 6 months into hours
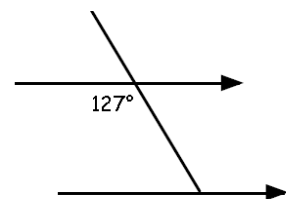
24E

1) Solve 3(c + 5) = 21

2) What is the size of the angle between the 12 and the 2 on a twelve hour clock face?

3) Evaluate the expression $\frac{1}{2}(z + w)^2$ when w = –1, x = 3, y = –2 and z = 2

4) A phone bill is £17 per month. The first 4 hours per month are free. It's 24p per minute over this. If 287 mins are used in Jan and 362 mins in Feb. How much does it cost in total?

Set 25

25A

1) Solve $10(v - 2) = 20$

2) What is the name of a regular polygon which has 5 sides

3) Calculate $\dfrac{3\,x\,(-0.2)^2}{0.8\,x\,0.9-0.22}$
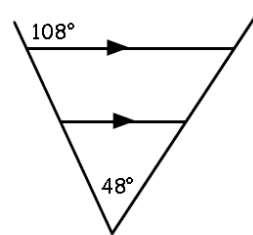
4) Find $^1/_9$ of $^3/_4$ of 24

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25B

1) Solve $5(w- 3) = 0$

2) **COPY** the following & fill in the sizes of **all** missing angles:

3) Evaluate the expression $2wxyz$ when $w = -1$, $x = 3$, $y = -2$ and $z = 2$
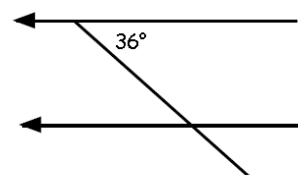
4) Find $0.655 \div 5000$

25C

1) Solve $3(2h - 1) = 21$

2) What is the size of the (smaller) angle between the hands of a clock at 3 o'clock ?

3) Calculate 475×0.36

4) Simplify $^{100005}/_{100}$ and change to a mixed number

25D

1) How many seconds are in a year?

2) Solve $2(4f + 1) = 50$

3) **COPY** the following & fill in the sizes of **all** missing angles:

4) Evaluate the expression $w^2(x^2 - z^2)$ when $w = -1$, $x = 3$, $y = -2$ and $z = c$

25E

1) Solve $2(x + 4) - x - 6 = 4$

2) What is the name of a regular polygon which has 6 sides

3) Work out $^4/_5 \times (^5/_{12} + ^1/_4 - ^1/_2)$

4) Find the mean, median and mode of these numbers -3, -7, -2, -9, -4, -7, -3, -7, -5, -2

Set 26

26A

1) Solve $3(h + 1) + 2h - 1 = 27$

2) Caculate the size of the **interior** angles of a regular pentagon

3) Find $((4^3 + 8) \times 7) \div 6 \div 12$

4) Calculate the **mean**, **median**, **mode** and **range**: 12, 12, 14, 16, 18, 20, 28, 32

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26B

1) **COPY** the following & fill in the sizes of **all** missing angles:

2) A ten sided dice numbered 1 to 10 is thrown. Find P(even)

3) Evaluate the expression $xy(3w - 5y) \div wz$ when $w = -1$, $x = 3$, $y = -2$ and $z = 2$

4) Express 50 as a product of prime factors

132°
55°
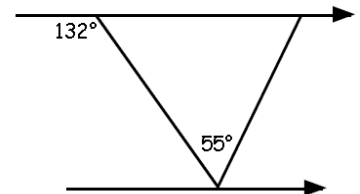
26C

1) What is the name of a regular polygon which has 7 sides

2) Find $5^2 + (6 - (22 + 11) \times 2) \div 10$

3) Find $(-3 \cdot 25) + 7 \cdot 55 - 6 \cdot 15$

4) Convert 0.04 to a fraction

26D

1) Evaluate the expression $uvwxy \div 4$ when $u = -1$, $v = 2$, $w = 3$, $x = 4$ and $y = -2$

2) Find $0 \cdot 0174 \div 0 \cdot 003$

3) What fraction of the months of the year have 31 days in them?

4) Write down the complement of $35°$ and the supplement of $49°$

26E

1) Find $((96 \div 2^4) \div 3) \times 5 + 8 \div 2$

2) A book has 18 words per line and 43 lines per page. There are 487 pages. How many words are there in the book?

3) Find 3 consecutive numbers whose sum is 147.

4) How many days are there between 27th April and 10th May including both start and end date

Set 27

27A

1) Name the regular polygon which has 8 sides

2) Find **mean**, **median**, **mode** and **range**: 3, 7, 1, 1, 4, 9, 10, 13

3) Find $12 + (6^3 \div (3 \times 2) - 12)$

4) A ball costs £17.49. How much change if you pay only with 20p coins.

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27B

1) What fraction of the months of the year have Less than 30 days in them?

2) Ahmed, Brian, Curtis, Dolly and Eva are sitting around a table. Ahmed is on Brian`s right. Curtis is on Dolly`s left and Dolly is on Brian`s left. Who is on Eva`s right?

3) The mean age of a group of boys was 15. One more boy joined the group and the mean age became 14. How old was the ninth boy?

4) **COPY** the following & fill in the sizes of **all** missing angles:
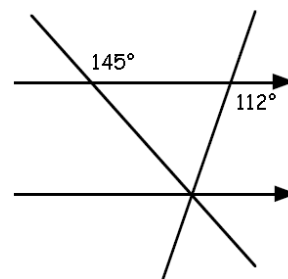
27C

1) A ten sided dice numbered 1 to 10 is thrown. Find P(less than 3)

2) Evaluate the expression $(uv + wx)^2 - y^2$ when u = -1, v = 2, w = 3, x = 4 and y = -2

3) Find $4 \times (18 - (98 \div 7^2) + 1)$

4) The bells at two schools ring on different schedules. One bell rings every 45 minutes, the other every 60 minutes. If both bells ring at 8.45am, what time will it be when both bells ring again at the same time?
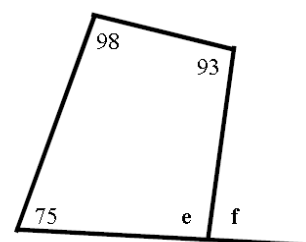
27D

1) Find the missing angles:

2) Convert 0.0025 to a fraction

3) It was estimated that 74 million insects descended on a forest containing 12 000 trees. How many insects landed on each tree? Give your answer correct to 3 sf.

4) Find $^1/_3$ of $^7/_{12} - {}^1/_4$

27E

1) A die is rolled. What is the probability of getting a prime factor of 40?

2) Work out $32 + 7 - ((2^4 \div 4) \times 2)$

3) Write 2 minutes as a fraction of an hour

4) How many days are there between 3rd Aug and 9th Oct? Include both start & end date

Set 28

28A

1) What is the name of a regular polygon which has 9 sides

2) Work out $9^2 \div (5 \times (1 + 7) - 13) + 11$

3) Calculate the missing angle

4) 3 out of 8 people drive a red car. Out of 400 drivers,

   how many of them would you expect to drive a red car?

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28B

1) Evaluate the expression $\sqrt{(uy)^2 - w}$ when u = -1, w = 3, and y = -2

2) What do the angles in an octagon add up to?

3) What fraction of the months of the year have 5 or less letters making up their names?

4) The mean age of 4 people is 16 years. A fifth person joins the group causing the mean to go up to 17 years. What was the age of the fifth person?

28C

1) A card is chosen at random from a pack of cards. Find the probability of choosing an ace.

2) Find $7 \times 6^3 \div ((16 + 12) - 7)$

3) When a ball is dropped it rebounds to $^3/_5$ of its height. If dropped from a height of 3 m. How many times will it bounce before rebounding to a height of less than 0.5m?

4) Calculate 0·05 x 0·04

28D

1) Find the missing angles:

2) Write 0.78 as a fraction in its simplest form

3) A colouring pencil costs £0.09. What is the cost of 2000 pencils?

4) How many days are there between 20th May and 10th July including both start and end date
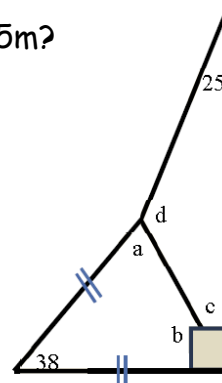
28E

1) Calculate the **mean**, **median**, **mode** and **range**: 3·6, 4·5, 5·4, 6·1, 7·3, 7·3

2) In a class in second year $\frac{1}{4}$ of the class were absent. Of those who are left $\frac{2}{3}$ are girls. If there are eight boys present in the class how many pupils are on the class list ?

3) What is the size of the (smaller) angle between the hands of a clock at quarter to eight?

4) An experiment has probability 0·3 of success. If the experiment is repeated 40 times, how many times would you expect it to fail?

Set 29

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29A

1) Factorise 16y + 24

2) Solve the equation 8x = 18

3) Write 0.325 as fraction in its lowest terms

4) Find $10 - (4 \times (2^5 + 1)) \div 2$

29B

1) What is the name of a regular polygon which has 10 sides

2) Factorise 3a + 9b + 6

3) Solve the equation 15y = 10

4) In a recent survey at, Oban High School, 54 pupils chose Maths as their favourite subject, whilst 96 chose English. If 360 pupils where questioned in the survey then what fraction of the pupils chose a) Maths b) English

29C

1) Solve the equation 2t – 7 = 32

2) Construct an equation and solve. When I multiply a number by 3 and subtract 1 the answer is 35. What is the number?

3) How many girls from a school of 420 would you expect to have been born in November?

4) If I am 48 years, 48 months, 48 weeks, 48 days and 48 hours old. How old am I in days?

29D

1) Factorise 4c + 6d + 10e

2) Solve the equation 3m + 5 = –7

3) If you roll a normal dice 120 times. How many odd numbers would you expect to get?

4) Find $45 \div ((2 + 5) - 4^2) + 24$

29E

1) A ten sided dice numbered 1 to 10 is thrown. Find P(prime)

2) Solve the equation 6k + 4 = 3k + 4

3) Find $72 \div ((6 - 10) \times 3^3) + 14 - 9$

4) The mean weight of 3 parcels is 14kg. Another parcel is added to the bundle. The mean goes up to 16kg. How much did the fourth parcel weigh?

Set 30

30A

1) Factorise 12v + 30k – 18

2) Solve the equation 9a – 1 = 4a + 34

3) A small tub holds 0·08 litres of pineapple yogurt.

   How many tubs can be filled from a container containing 3.2 litres?

4) Evaluate z(2x – 3) ÷ y, given that x = 4, y = -2 and z = 6:

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30B

1) Solve the equation 7b – 8 = b + 1

2) Find $2 + ((72 \div 6) \times 3 + 4^3) \div 5 + 12$

3) Each time a ball bounces it rebounds to one third of the height from which it fell. After the second bounce itl rises to a height of 9cm. From what height was it originally dropped?

4) What do the angles in a quadrilateral add up to?

30C

1) Factorise 15h – 45n + 75d

2) Solve the equation 3c = c + 17

3) Write 0.224 as fraction in its lowest terms

4) Given that x = -3, y = 6 and z = -4, evaluate 2x + 3(4z - 4)

30D

1) Calculate the size of the **exterior** angle of a regular pentagon.

2) Solve the equation 5d – 26 = 3d

3) Find $4 + ((12 + 84) \div (2^4 \times 3)) – 10$

4) Find (–0·73) ÷ (–0·8)

30E

1) Factorise fully 3pq + 21q

2) Solve the equation 10e – 30 = 6e

3) In a year group election, ½ the students voted for Janice, ¼ for Lana and 1/5 for Sean. The rest voted for Andrew. If 100 students voted. How many voted for Andrew?

4) A square has sides of length x + 2 cm. Its perimeter is 32cm. Find the value of x.

Set 31

31A

1) Calculate the size of the **exterior** angle of a regular a regular deca

2) Factorise fully 12ab + 15a

3) Solve the inequation 5r – 23 > 7

4) Calculate $11 \times 3^3 + ((18 + 2) \div 10) - 22 + 15$

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31B

1) Solve the equation 6(2f – 1) = 10f

2) The probability of an event happening is said to be $^3/_7$.

   What is the probability of the event **not** happening?

3) Write 0.035 as fraction in its lowest terms

4) To which number is the arrow pointing
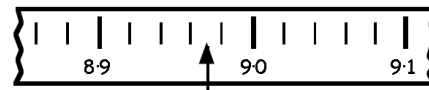
31C

1) Factorise fully 30stu – 24st

2) Solve the inequation 4u + 4 ≤ 4

3) Work out $11 - 16 \div 8 \times (9 + (4 - 5^2)) + 10$

4) $^3/_5$ of the students in a school are girls. $^2/_3$ of the girls and ½ of the boys are over 13.

   What fraction of the students are 13 or under?

31D

1) Solve the equation 14(2g – 1) = 26g + 4

2) Find $^3/_5$ of $^{15}/_{16}$ – $^1/_4$

3) If 3 centimetres of snow fell every hour.What depth fell during 15 minutes?

4) Find 2.9 – 6.71 + 3.86

31E

1) Factorise fully 5h – 15hg + hf

2) Solve the inequation 3v – 2 < 25

3) Find $34 - 17 + ((37 + 3) \times 8) \div 8^2$

4) A garden requires 32 edging blocks, each 1.5 metres long, to surround it completely. If a garden centre only sold edging blocks which were 1.2 metres long, how many would be needed to surround this same garden?

Set 32

32A

1) Factorise fully $y^2 + 4y$

2) Solve the inequation $2w + 5 \leq 22$

3) Find $7 \times ((12 - 8) + 2^5 - 1) \div 5 \times 2$

4) There are only 3 possible outcomes to an experiment, namely A, B and C. If Pr(A) = 1/2 and Pr(B) = 1/3 , what is Pr(C)?

32B

1) Solve the equation $8(h + 3) = 7h$

2) Write 0.002 as fraction in its lowest terms

3) Share £27·98 amongst 3 people. What is the maximum amount each person can receive ?

4) An equilateral triangle has sides of length y + 4 cm. Its perimeter is 16cm. Find y.

32C

1) Solve the equation $2(j + 5) - j - 4 = 7$

2) What is the definition of a Prime Number?

3) William is paid £12.65 an hour. He works an 18 hour week. **Find his annual wage**

4) The average mass of 8 oarsmen in a boat-race crew is 91.6kg. The average mass of the 9 crew members, including the cox is 89.8kg. What is the mass of the cox?

32D

1) Factorise fully $3x^2 + 6x$

2) Work out $3^4 + ((18 + 4) - 12) \div 5 \times 4$

3) A regular pentagon has sides 2x + 7 cm long and its perimeter is 65cm. Find the value of x.

4) A regular icosahedron has 20 faces, numbered from 1 to 20. It is thrown 60 times. How many times would you expect to get a **a)** multiple of 4 **b)** square number **c)** prime number?

32E

1) Solve the equation $4(k + 2) + 3k - 3 = 12$

2) Find the Mystery Number. It has 2 digits and the product of its digits is 63. The number is prime and its tens digit is divisible by 3.

3) The weight of a particular ingredient in making tablet should be quite accurate. It is given as (0.332±0.005) mg. What is the maximum and minimum permitted weight?

4) How many pieces of wire each 7.8cm long can be cut from a coil containing 10m of wire?

Set 33

33A

1) Factorise fully $8p^2 + 4p$

2) Round 0·82 correct to the **nearest whole number**

3) Find $20 \div 0·0004$

4) What is the total volume, (in ml), of 25 bottles of juice, each

   containing 675 ml ? (Give your answer in millilitres to 3 sig figs)

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33B

1) Solve the equation $5(m + 2) - 3m = 18$

2) Round the following number to the number of decimal places indicated: 14·3827 (2dp)

3) Calculate $14 + ((4 \times 3 - 10^2) \div 11 - 9)$

4) What is the 6th triangle number (a dot diagram may help you)

33C

1) Factorise fully $12n - n^2$

2) Solve the inequation $2(x + 5) < 16$

3) Round 99 to the **nearest ten**

4) Find the median 0.5, -0.2, 1.2, -2, -0.15, 0.06

33D

1) Solve the equation $3(n - 5) + 4n + 1 = 28$

2) Round 99684 to the **nearest thousand**

3) Claire has 5 cartons of cakes, each containing n cakes. She also has 3 single cakes.

   If Claire has a total of 43 cakes, what is the value of n?

4) Work out $1 + (54 \div (1 + 2^3) + 8) - 24$

33E

1) Factorise fully $a^2 + a$

2) Solve the inequation $4(y + 8) > 40$

3) Round the following number to the number of decimal places indicated: 6·9025 (3dp)

4) Express 144 as a product of primes

Set 34

34A

1) Solve the equation $2p + 1 + 3(p - 6) = 23$

2) Round 13·9951 (to 2dp)

3) James thinks of a number. He doubles and adds 14. He then multiples this answer by 6. His total is 12. Form an equation and solve it.

4) Find an approximate value of $\frac{48.8 \times 5.22}{10.13^2}$

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34B

1) Factorise fully $12t^2 + 4t$

2) Solve the inequation $4(z - 1) \geq 20$

3) Round the following number to the number of significant figures indicated: 66·3082 (4sf)

4) Convert 1 year 6 months into minutes

34C

1) Factorise fully $b^3 + b$

2) Solve the equation $8q + 2(q - 9) = 82$

3) Round the following number to the number of significant figures indicated: 0·054057 (3sf)

4) Find an approximate value of $\frac{316 \times 4.03}{0.198}$

34D

1) Solve the inequation $4(2a + 1) \leq 84$

2) Three boys go on a school trip. Douglas takes £x in pocket money. Jim takes three times as much as Douglas. Malcolm takes four times as much as Douglas. If altogether they have £16, find the value of x.

3) Write down the maximum and minimum allowable sizes for the tolerance (7.2 ± 0.5) cm

4) There are only 3 possible outcomes to an experiment, namely A, B and C. If Pr(A) = 0·1 and Pr(B) = 0·2, what is Pr(C)?

34E

1) Factorise fully $m^3 + m^2 + m$

2) Solve the equation $3(r - 3) + 2(r + 5) = 21$

3) Round the following number to the number of significant figures indicated: 698 (2sf)

4) Find an approximate answer to 8143 ÷ 81

Set 35

35A

1) Solve the equation $5(2v + 1) - 2(v - 2) = 6v + 13$

2) Solve the inequation $3(2n - 7) \geq 5n + 19$

3) Round 99·8 correct to the **nearest whole number**

4) Estimate the answer to $\frac{9.2^2 \div 10.3}{4.306 \ x \ 5.011}$

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35B

1) Factorise fully $15abc - 3ab$

2) Solve the inequation $2(6y - 4) > 4$

3) Round the following number to the number of significant figures indicated: 2468·43 (1sf)

4) Sandra is x years old. Helen is 3 years older than Sandra Karen is 2 years younger than Sandra. If all their ages added together give 43 years, find the value of x.

35C

1) Solve the equation $5(2t + 1) + 3(1 - 2t) = 20$

2) Round the following number to the number of decimal places indicated: 100·002 (2dp)

3) Find an approximate value of $\sqrt{\frac{9.98}{0.203}}$

4) Alan is y years old. His elder brother is 6 years older than he is and his younger brother is 8 years younger than Alan. If all their ages add up to 37 years, find the value of y.

35D

1) Factorise fully $5p^2 + p$

2) Solve the inequation $5(h + 3) < 3h + 21$

3) Julie is z years old. Her father is 4 times older than Julie. Her mother is 7 years younger than her father. If their ages add up to 101 years, find the value of z. Also find the ages of both Julie's parents.

4) Write down the maximum and minimum allowable sizes for the tolerance (18.25 ± 0.04) $^{\circ}C$

35E

1) Factorise fully $16d^3 + 6d^2 + 28d$

2) Solve the equation $10(y + 3) - 6(y + 1) = 2y + 40$

3) Round the following number to the number of significant figures indicated: 0·002524 (1sf)

4) Estimate the answer to $\frac{18.2 \ x \ 10.7}{\sqrt{398.6}}$