Starting checks A

No calculator. These short checks help you choose a starting point; they are not a grade.

3.1 Calculate 7 x 8.

3.2 Calculate 84 / 7.

3.3 Find the highest common factor of 18 and 30.

3.4 Write 0.75 as a fraction in simplest form.

3.5 Convert 2.5 kg to grams.

3.6 Convert 90 minutes to hours.

Check the answers on book page 55. Circle one prerequisite you want to practise.

Starting checks B

No calculator. These short checks help you choose a starting point; they are not a grade.

4.1 Find 3/5 of 40.

4.2 Find 25% of £60.

4.3 Complete 3/4 = __/20.

4.4 Divide £72 equally between 8 people.

4.5 Convert 1.2 litres to millilitres.

4.6 A rectangle has sides 3 cm and 5 cm. Find its perimeter.

Check the answers on book page 55. Circle one prerequisite you want to practise.

Matching book page 5

Reading a ratio

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

5.1 A bag contains 5 red counters and 8 blue counters. Write red : blue and blue : red.

5.2 A tray has 7 apples and 3 pears. Write apples : all pieces of fruit.

5.3 Two bags have red : blue = 2 : 3. Must they contain the same number of counters? Explain.

Worked answers: book page 55. Correct one error and explain why the method works.

Matching book page 6

Order matters

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

6.1 There are 6 buses and 15 cars. Write cars : buses in simplest form.

6.2 A drink uses juice : water = 1 : 4. Write water : juice.

6.3 A club has 10 juniors and 25 seniors. A pupil says juniors : seniors = 5 : 2. Correct the ratio and explain.

Worked answers: book page 55. Correct one error and explain why the method works.

Matching book page 7

Simplifying whole-number ratios

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

7.1 Simplify 24 : 36.

7.2 Simplify 35 : 49.

7.3 A pupil simplifies 12 : 20 to 2 : 10 by subtracting 10 from each part. Give the correct simplest ratio and explain.

Worked answers: book page 55. Correct one error and explain why the method works.

Matching units

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

8.1 Simplify 3 kg : 750 g.

8.2 Simplify 45 minutes : 2 hours.

8.3 A pupil says 1.5 litres : 500 ml = 3 : 1000. Find the correct ratio.

Worked answers: book page 56. Correct one error and explain why the method works.

Matching book page 9

Ratios with decimals

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

9.1 Simplify 0.6 : 1.5.

9.2 Simplify 2.25 : 0.75.

9.3 A mixture uses 1.8 litres of A and 1.2 litres of B. State A : B in simplest form.

Worked answers: book page 56. Correct one error and explain why the method works.

Matching book page 10

Ratios with fractions

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

10.1 Simplify 1/3 : 1/2.

10.2 Simplify 3/5 : 9/10.

10.3 A recipe uses 3/4 cup of oats and 1/2 cup of seeds. Find oats : seeds in simplest form.

Worked answers: book page 56. Correct one error and explain why the method works.

Matching book page 11

Equivalent ratios and missing values

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

11.1 Complete 4 : 7 = 20 : __. State the scale factor.

11.2 Complete 18 : 30 = __ : 5.

11.3 Which is equivalent to 5 : 8: 10 : 16 or 15 : 18? Justify.

Worked answers: book page 56. Correct one error and explain why the method works.

Matching book page 12

Three-part ratios

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

12.1 Simplify 8 : 12 : 20.

12.2 A mixture has A : B : C = 2 : 3 : 4. If A is 10 g, find B and C.

12.3 A pupil simplifies 6 : 9 : 15 to 2 : 3 : 15. Correct the ratio and explain.

Worked answers: book page 56. Correct one error and explain why the method works.

Matching book page 13

Part to part and part to whole

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

13.1 Cats : dogs = 3 : 4. Write cats : all animals and dogs : all animals.

13.2 A basket has 8 apples and 12 pears. Write apples : pears and apples : all fruit in simplest form.

13.3 Blue : all counters = 2 : 7. All counters are blue or red. Write blue : red.

Worked answers: book page 57. Correct one error and explain why the method works.

Matching book page 14

Ratios as fractions

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

14.1 Red : blue = 4 : 7. What fraction of all counters are red?

14.2 A : B : C = 2 : 3 : 5. What fraction of the mixture is C?

14.3 A pupil says that boys : girls = 2 : 3 means 2/3 of the class are boys. Correct this.

Worked answers: book page 57. Correct one error and explain why the method works.

Matching book page 15

Ratios and percentages

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

15.1 Walkers : cyclists = 3 : 2. What percentage of the group are walkers?

15.2 A : B : C = 1 : 2 : 7. What percentage is B?

15.3 A group contains only adults and children in ratio adults : children = 3 : 5. Are children 5% of the group? Explain.

Worked answers: book page 57. Correct one error and explain why the method works.

Matching book page 16

Fractions and percentages to ratios

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

16.1 Two fifths of a group wear glasses. Write glasses : no glasses.

16.2 35% of a class travel by bus; everyone else walks. Find bus : walk in simplest form.

16.3 A pupil says that if 7/10 of counters are red, red : not red = 7 : 10. Correct this.

Worked answers: book page 57. Correct one error and explain why the method works.

Matching book page 17

Finding the whole from a fraction

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

17.1 Three eighths of a group is 15 people. How many people are in the whole group?

17.2 Blue : all counters = 4 : 9. There are 28 blue counters. Find the total number of counters.

17.3 40% of tickets have been sold. This is 72 tickets. How many tickets were available?

Worked answers: book page 57. Correct one error and explain why the method works.

Matching book page 18

Sharing a total in two parts

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

18.1 Share £84 in ratio 3 : 4.

18.2 Split 45 counters into red and blue in ratio 2 : 3. Find each number.

18.3 A £96 fund is shared between A and B in ratio 5 : 3. How much more does A receive?

Worked answers: book page 58. Correct one error and explain why the method works.

Matching book page 19

Sharing a total in three parts

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

19.1 Share £120 in ratio 2 : 3 : 5.

19.2 A 72 g mixture has A : B : C = 1 : 3 : 4. Find the mass of each ingredient.

19.3 A school has 150 tickets to allocate in ratio 4 : 3 : 3. How many go to the largest allocation?

Worked answers: book page 58. Correct one error and explain why the method works.

Matching book page 20

When one share is known

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

20.1 Red : blue = 3 : 5. There are 21 red counters. Find the blue number and the total.

20.2 A : B : C = 2 : 5 : 3. B receives £40. Find A and C.

20.3 Adults : children = 2 : 7. There are 42 children. How many adults are there?

Worked answers: book page 58. Correct one error and explain why the method works.

Matching book page 21

When the difference is known

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

21.1 A : B = 3 : 7. B has £28 more than A. Find both amounts.

21.2 Red : blue = 4 : 9. There are 20 more blue counters than red. Find the total.

21.3 Two lengths are in ratio 5 : 8. The longer is 18 cm more. Find the shorter length.

Worked answers: book page 58. Correct one error and explain why the method works.

Matching book page 22

Checking a sharing answer

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

22.1 A pupil shares £60 in ratio 1 : 2 as £25 and £35. Check the answer and correct it.

22.2 Does a split of 18 and 42 match a total of 60 in ratio 3 : 7? Explain both checks.

22.3 A 100 g mixture is split into 20 g, 30 g and 50 g. State its simplest ratio and check the total.

Worked answers: book page 58. Correct one error and explain why the method works.

Matching book page 23

Ratios after a change

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

23.1 A bag has 12 red and 18 blue counters. Six red counters are added. Find the new red : blue ratio.

23.2 There are 20 adults and 30 children. Ten children leave. Find the new adults : children ratio.

23.3 Red : blue = 3 : 5 and there are 24 counters in total. Four blue counters are removed. Find the new ratio.

Worked answers: book page 59. Correct one error and explain why the method works.

Matching book page 24

Combining linked ratios

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

24.1 A : B = 3 : 4 and B : C = 8 : 5. Find A : B : C.

24.2 Red : blue = 2 : 3 and blue : green = 2 : 5. Find red : blue : green.

24.3 A : B = 1 : 2 and B : C = 3 : 4. Find A : C.

Worked answers: book page 59. Correct one error and explain why the method works.

Matching book page 25

A share of a share

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

25.1 There are 60 pupils. Two thirds play an instrument. Of these, one quarter play violin. How many play violin?

25.2 Red : blue = 2 : 3 in a bag of 50 counters. Half the blue counters are marked. How many blue counters are marked?

25.3 A club has 48 members. Adults : children = 3 : 5. Of the children, 2/3 join a trip. How many children join?

Worked answers: book page 59. Correct one error and explain why the method works.

Matching book page 26

Scaling a recipe

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

26.1 A recipe for 4 people uses 180 g of flour. How much flour is needed for 12 people?

26.2 A recipe for 6 people uses 450 g of pasta and 300 ml of sauce. Find both amounts for 2 people.

26.3 A recipe for 5 people uses 350 g of vegetables. Find the amount for 15 people and explain the scale factor.

Worked answers: book page 59. Correct one error and explain why the method works.

Matching book page 27

Fractional recipe scale factors

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

27.1 A recipe for 4 uses 160 g of oats. How much is needed for 6 people?

27.2 A recipe for 8 uses 600 ml of milk. Find the amount for 3 people.

27.3 A recipe for 6 uses 420 g of flour and 90 g of sugar. Find both amounts for 9 people.

Worked answers: book page 59. Correct one error and explain why the method works.

Matching book page 28

Mixtures and concentration

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

28.1 Concentrate : water = 2 : 7. Find each amount in a 900 ml drink.

28.2 A drink uses concentrate : water = 1 : 5. How much water is needed with 150 ml of concentrate?

28.3 For the same concentrate, which drink is stronger: concentrate : water = 1 : 3 or 1 : 4? Explain.

Worked answers: book page 60. Correct one error and explain why the method works.

Matching book page 29

Whole packs and practical rounding

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

29.1 A scaled recipe needs 750 g of flour. Flour is sold in 400 g bags. Find the minimum number of bags and the spare flour.

29.2 A drink needs 1.8 litres of concentrate. Bottles contain 500 ml. Find the minimum number of bottles.

29.3 A recipe for 4 people uses 3 eggs. You need food for 10 people. If you prepare only complete 4-person batches, how many batches and eggs are needed?

Worked answers: book page 60. Correct one error and explain why the method works.

Matching book page 30

Finding how much a recipe can make

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

30.1 A recipe for 5 uses 200 g of rice. With 600 g of rice, how many servings can be made if all other ingredients are sufficient?

30.2 A recipe for 4 uses 300 g of flour and 2 eggs. You have 900 g of flour and 4 eggs. How many servings can be made, allowing proportional quantities?

30.3 A recipe for 6 uses 450 ml of stock. With 750 ml of stock, how many servings can be made if other ingredients are sufficient?

Worked answers: book page 60. Correct one error and explain why the method works.

Matching book page 31

Length scale factors

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

31.1 A rectangle has sides 4 cm and 7 cm. Find its side lengths after enlargement by scale factor 3.

31.2 A model length is 18 cm. It is reduced by length scale factor 1/3. Find the new length.

31.3 Corresponding lengths are 12 cm and 30 cm. Find the scale factor from the smaller to the larger shape.

Worked answers: book page 60. Correct one error and explain why the method works.

Matching book page 32

Scale drawings

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

32.1 A plan uses scale 1 : 100. A wall is 4.5 cm long on the plan. Find its real length in metres.

32.2 A plan uses 1 cm to represent 2 m. A path is 7 cm on the plan. Find the real length.

32.3 A 6 m room is drawn at scale 1 : 50. Find the drawing length in centimetres.

Worked answers: book page 60. Correct one error and explain why the method works.

Matching book page 33

Maps and real distances

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

33.1 A map has scale 1 : 20 000. Find the real distance represented by 3.5 cm, in metres.

33.2 At scale 1 : 50 000, a route is 6 cm on the map. Find the real distance in kilometres.

33.3 A real distance is 2.4 km. Find its map distance in cm at scale 1 : 30 000.

Worked answers: book page 61. Correct one error and explain why the method works.

Matching book page 34

Recovering a scale

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

34.1 A 5 cm drawing length represents 20 m. Find the scale as drawing : real.

34.2 A map distance of 8 cm represents 2 km. Find the map scale.

34.3 A 12 cm model represents an object 3 m long. What real length does 7 cm on the same model scale represent?

Worked answers: book page 61. Correct one error and explain why the method works.

Matching book page 35

Finding a unit price

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

35.1 A 4 kg bag costs £9.60. Find the price per kilogram.

35.2 Six identical notebooks cost £7.50. Find the cost per notebook.

35.3 A 500 g pack costs £1.80. Find its price per kilogram.

Worked answers: book page 61. Correct one error and explain why the method works.

Matching book page 36

Best buys in matching units

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

36.1 Pack A is 450 g for £1.35. Pack B is 800 g for £2.24. Compare prices per 100 g and choose the better value.

36.2 Two litres cost £3.40; five litres cost £8.00. Which has the lower cost per litre?

36.3 A 750 g pack costs £2.10 and a 1 kg pack costs £2.90. Find both prices per kg and choose the lower.

Worked answers: book page 61. Correct one error and explain why the method works.

Matching book page 37

Multipacks and equal quantities

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

37.1 Four markers cost £3.20; six cost £4.50. Find the unit prices and choose the lower.

37.2 You need exactly 12 folders. Packs of 3 cost £2.40 and packs of 4 cost £3.00. Compare buying only one pack size.

37.3 You need at least 10 pens. Only packs of 4 at £2.40 or packs of 6 at £3.90 are available. Compare using only one size.

Worked answers: book page 61. Correct one error and explain why the method works.

Matching book page 38

Offers, budgets and constraints

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

38.1 A juice carton costs £2.50 or three cost £6.00. Find the saving when buying six cartons using the offer.

38.2 A 500 g pack costs £1.50 and a 1 kg pack costs £2.80. You have only £2 and need at least 400 g. Which pack can you buy? Explain.

38.3 A shop offers 5 identical cards for £4.00; single cards cost 90p. You need exactly 7 cards. Find the cheapest cost using complete offers and/or singles.

Worked answers: book page 62. Correct one error and explain why the method works.

Matching book page 39

Rates of pay

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

39.1 A worker earns £11 per hour for 6 paid hours. Find the pay before deductions.

39.2 A worker earns £12 per hour for 3 hours 30 minutes. Find the pay before deductions.

39.3 A worker receives £63 for 4.5 paid hours at a constant rate. Find the hourly rate.

Worked answers: book page 62. Correct one error and explain why the method works.

Matching book page 40

Speed as a rate

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

40.1 A vehicle travels 120 km in 1.5 hours. Find its average speed in km/h.

40.2 A walker travels at a constant 4.8 km/h for 2.5 hours. Find the distance.

40.3 A journey is 90 km at a constant 60 km/h. Find the time in hours and in minutes.

Worked answers: book page 62. Correct one error and explain why the method works.

Matching book page 41

Using a stated conversion rate

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

41.1 Use the practice rate £1 = 1.25 euros. Convert £80 to euros, ignoring fees.

41.2 Use the practice rate £1 = 1.20 euros. Convert 90 euros to pounds, ignoring fees.

41.3 Use the approximation 5 miles = 8 km. Convert 35 miles to km.

Worked answers: book page 62. Correct one error and explain why the method works.

Matching book page 42

Direct proportion tables

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

42.1 Four identical tickets cost £18 with no extra charge. Find the cost of 10 tickets.

42.2 A machine makes 24 items in 6 minutes at a constant rate. How many does it make in 15 minutes?

42.3 A table pairs x = 2, 4, 7 with y = 10, 20, 35. Are y and x directly proportional? Explain.

Worked answers: book page 62. Correct one error and explain why the method works.

Matching book page 43

The equation y = kx

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

43.1 y is directly proportional to x. When x = 4, y = 28. Find k and y when x = 9.

43.2 The equation is y = 2.5x. Find y when x = 6 and x when y = 20.

43.3 A pupil uses y = 3x + 4 as a direct-proportion equation. Explain the problem using x = 0.

Worked answers: book page 63. Correct one error and explain why the method works.

Matching book page 44

Direct proportion and coordinates

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

44.1 For y = 2x, complete the coordinates (0, __), (2, __) and (5, __). Sketch the line on your own axes.

44.2 A straight graph passes through (0, 0) and (3, 12). It represents y directly proportional to x. Find y when x = 5.

44.3 A straight line passes through (0, 5) and (2, 9). Can it represent y directly proportional to x? Explain.

Worked answers: book page 63. Correct one error and explain why the method works.

Matching book page 45

Recognising proportional situations

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

45.1 A taxi charges £4 plus £2 per kilometre. Find the costs for 3 km and 6 km. Is cost directly proportional to distance?

45.2 A tap fills at a constant 8 litres per minute into an initially empty tank, before it becomes full. How much water is added in 7 minutes? Is this directly proportional to time?

45.3 A table pairs x = 1, 2, 3 with y = 4, 8, 13. Does it show direct proportion? Explain.

Worked answers: book page 63. Correct one error and explain why the method works.

Matching book page 46

An introduction to inverse proportion

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

46.1 Six identical machines complete a fixed job in 10 hours. How long would 4 identical machines take at the same rate, with no interference?

46.2 A fixed journey takes 3 hours at a constant 40 km/h. Find the time at a constant 60 km/h.

46.3 Two equal-rate taps fill a tank in 18 minutes. Six equal-rate taps fill the same tank with no loss or interference. Find the time.

Worked answers: book page 63. Correct one error and explain why the method works.

Matching book page 47

Choosing direct or inverse proportion

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

47.1 At a fixed price, 5 metres of fabric cost £18. Find the cost of 8 metres and name the relationship.

47.2 Four equal-rate workers complete a fixed task in 15 hours. Find the time for 10 workers, assuming no interference, and name the relationship.

47.3 A pupil says doubling a constant speed doubles the time for a fixed journey. Correct the claim.

Worked answers: book page 63. Correct one error and explain why the method works.

Matching book page 48

Ratio in a combined problem

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

48.1 A 1.2 litre drink uses concentrate : water = 1 : 5. Find the concentrate in ml. Then find it for 3.6 litres at the same strength.

48.2 £180 is shared between A and B in ratio 2 : 3. A spends one quarter of A's share. How much does A have left?

48.3 A drawing uses scale 1 : 200. A rectangular floor measures 4 cm by 3 cm on the drawing. Find its real side lengths in metres. Do not calculate its area.

Worked answers: book page 63. Correct one error and explain why the method works.

Matching book page 49

Mixed revision A

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

49.1 Simplify 1.2 kg : 800 g.

49.2 Share £132 in ratio 5 : 6.

49.3 A recipe for 8 people uses 360 g of rice. Find the amount for 5 people.

Worked answers: book page 64. Correct one error and explain why the method works.

Matching book page 50

Mixed revision B

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

50.1 At scale 1 : 40 000, a map route is 4.5 cm. Find the real distance in km.

50.2 A 600 g pack costs £1.92; a 1 kg pack costs £3.10. Compare their prices per kg.

50.3 y is directly proportional to x. When x = 6, y = 15. Find y when x = 10.

Worked answers: book page 64. Correct one error and explain why the method works.

Matching book page 51

Explain and correct an error

No calculator | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

51.1 A pupil shares £90 in ratio 2 : 3 as £45 and £30. Explain two problems and give the correct shares.

51.2 A pupil says that 1 cm on a 1 : 5000 map represents 5 km. Correct the distance in metres and explain.

51.3 A pupil changes a recipe from 4 to 6 servings by adding 2 to every ingredient quantity. Explain the correct method. If flour starts at 200 g, find the new amount.

Worked answers: book page 64. Correct one error and explain why the method works.

Matching book page 52

Final practice and your next step

Calculator allowed | Learn, explain and apply

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

Your practice

52.1 A : B = 4 : 7. B receives £63. Find A's share and the combined total.

52.2 A mixture has red : blue : white = 2 : 3 : 5. Its total mass is 250 g. Find the blue mass and the percentage that is white.

52.3 At a fixed unit price, 9 tickets cost £31.50. Find the cost of 14 tickets. Then name one method from this book that you want to revisit.

Worked answers: book page 64. Correct one error and explain why the method works.

Matching book page 53

Final assessment A

No calculator | 12 marks on this page

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

53.1 A bag has 18 red and 30 blue counters. (a) Find red : blue in simplest form. (b) State the fraction of all counters that are red. Show your method. [4 marks]

53.2 £96 is shared between A and B in ratio 3 : 5. Find both shares, then check their total and ratio. [4 marks]

53.3 A recipe for 6 people uses 240 g of rice and 180 g of vegetables. Find both amounts for 9 people. Explain why every ingredient must use the same scale factor. [4 marks]

Worked answers: book page 64. Correct one error and explain why the method works.

Matching book page 54

Final assessment B

Calculator allowed | 12 marks on this page

Same questions and question IDs as the revision book. Show your method; use extra paper when helpful.

54.1 Pack A contains 750 g for £2.25. Pack B contains 1.2 kg for £3.36. Find each price per kg and state which is better value by mass. Explain why someone with only £2.50 may still choose A. [4 marks]

54.2 A : B = 5 : 8. B is £27 more than A. Find each share and the total. Check your result. [4 marks]

54.3 y is directly proportional to x. When x = 4, y = 18. Find the equation and y when x = 7. State the y value when x = 0 and explain what this tells you about the graph. [4 marks]

Worked answers: book page 64. Correct one error and explain why the method works.