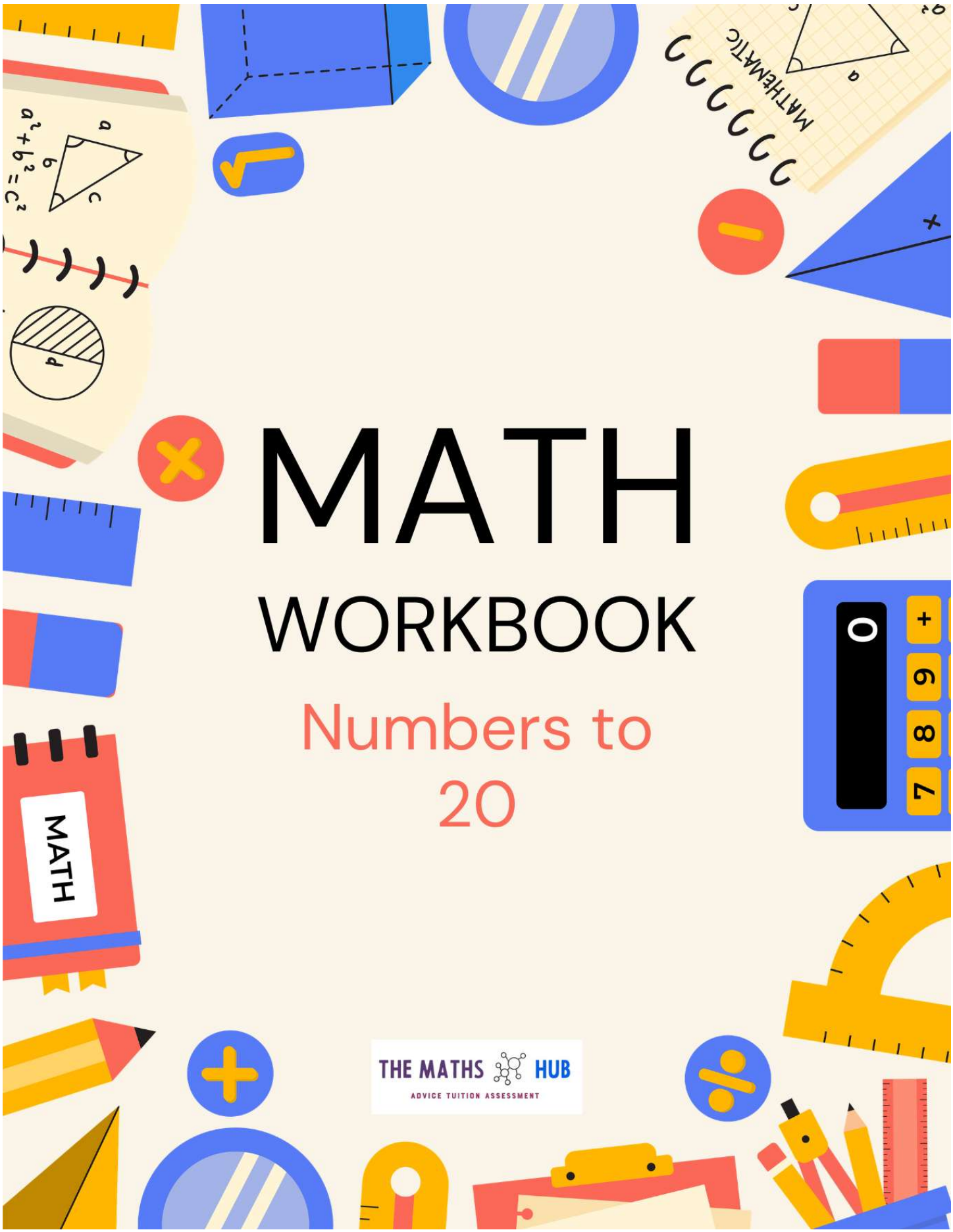
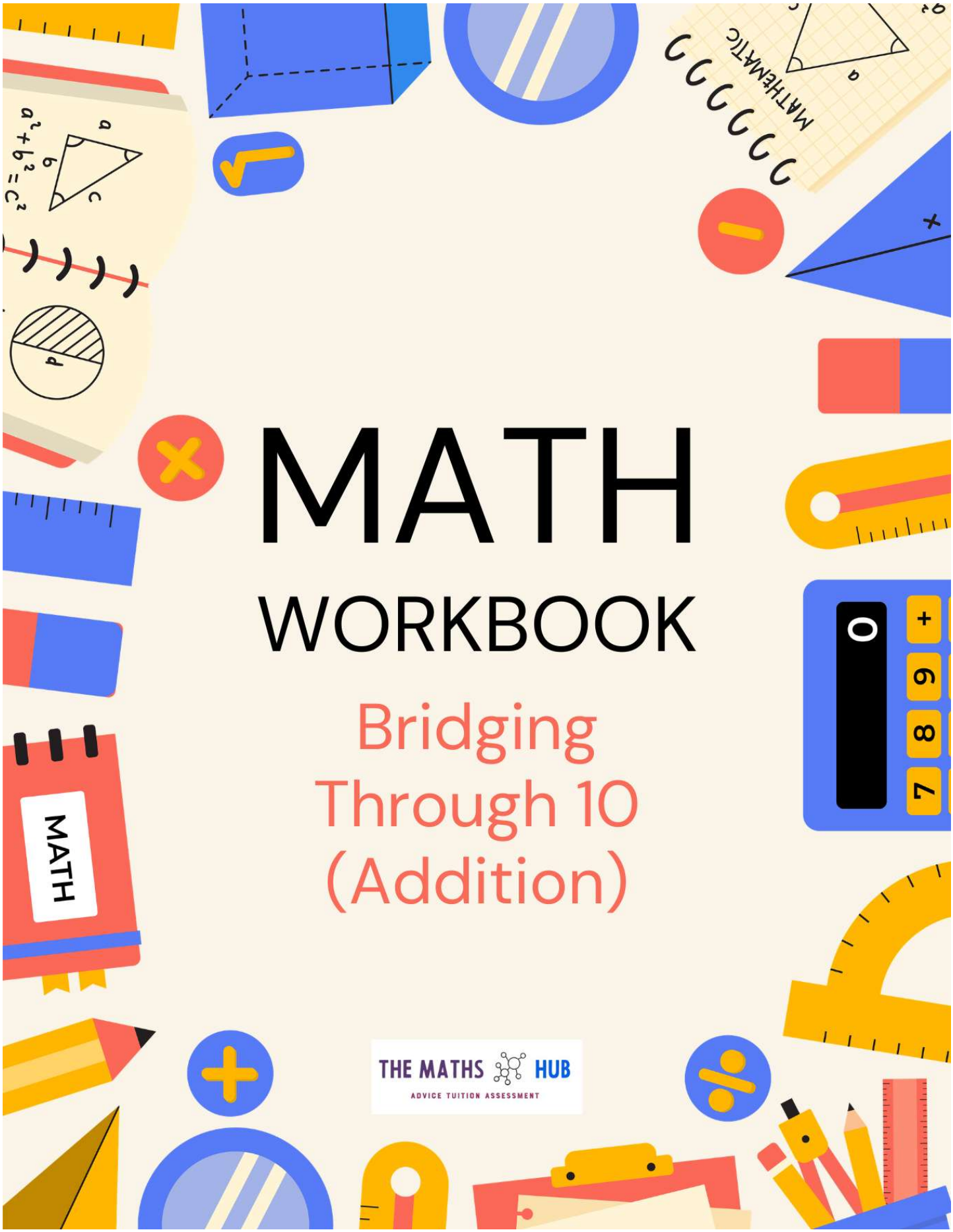


MATH

WORKBOOK

Numbers to 20

Contents


MATH
WORKBOOK
Bridging
Through 10
(Addition)
THE MATHS HUB
ADVICE TUITION ASSESSMENT

Bridging Through 10: Addition

Use cue cards and the appendix resources when needed. Choose representations that help you explain your thinking and show your strategy.

Remember:

To bridge forward through 10, add enough to make 10 first, then add the rest.

Example:

8 + 5

8 + 2 = 10

10 + 3 = 13

Answer = 13

Part A: Bridging Through 10 Facts

Use the bridge through 10 strategy to solve the calculations.

8 + 5 = ____	8 + 6 = ____
____ = 9 + 4	____ = 7 + 5
7 + 6 = ____	9 + 8 = ____
____ = 8 + 7	____ = 6 + 7
9 + 6 = ____	8 + 4 = ____
____ = 6 + 5	____ = 9 + 7
7 + 8 = ____	5 + 6 = ____
____ = 9 + 5	____ = 8 + 3

Part B: Missing Number

Write the missing number on each line.

13 = 8 + ____

8 + ____ = 15

9 + ____ = 12

____ + 4 = 13

7 + ____ = 11

16 = 9 + ____

____ + 6 = 14

____ + 7 = 15

____ + 5 = 12

6 + ____ = 11

Part C: Challenge

Use bridging through 10 to solve the challenges.

How much do you add to 8 to make 10? ____

How much do you add to 9 to make 10? ____

What is 8 + 6? ____

What is 9 + 5? ____

Which calculation would benefit most from bridging through 10?

8 + 5 4 + 3 5 + 2

Part D: Word Problems

Read each word problem carefully. Use bridging through 10 to help you find the answer.

Mia has 8 house points. Her teacher gives her 5 more. How many house points does she have now?

Answer: _____

Luca collected 9 football cards. His friend gave him 4 more. How many football cards does he have altogether?

Answer: _____

There are 7 students in the lunch queue. Then 6 more students arrive. How many students are there altogether?

Answer: _____

Noah has 8 followers on social media. The following day he gets 7 more. How many followers does he have now?

Answer: _____

Use the space below to write and answer your own word problem.

Answer: _____

Part E: Explain Your Thinking

Use words, pictures or numbers to explain your strategy.

How did you solve 8 + 5?

How did you solve 9 + 7?

Extension Challenge

⭐ Part F: Add a Single-Digit Number to a Two-Digit Number

Bridge through the next ten to solve each calculation.

18 + 5 = _____

59 + 7 = _____

29 + 4 = _____

26 + 8 = _____

37 + 6 = _____

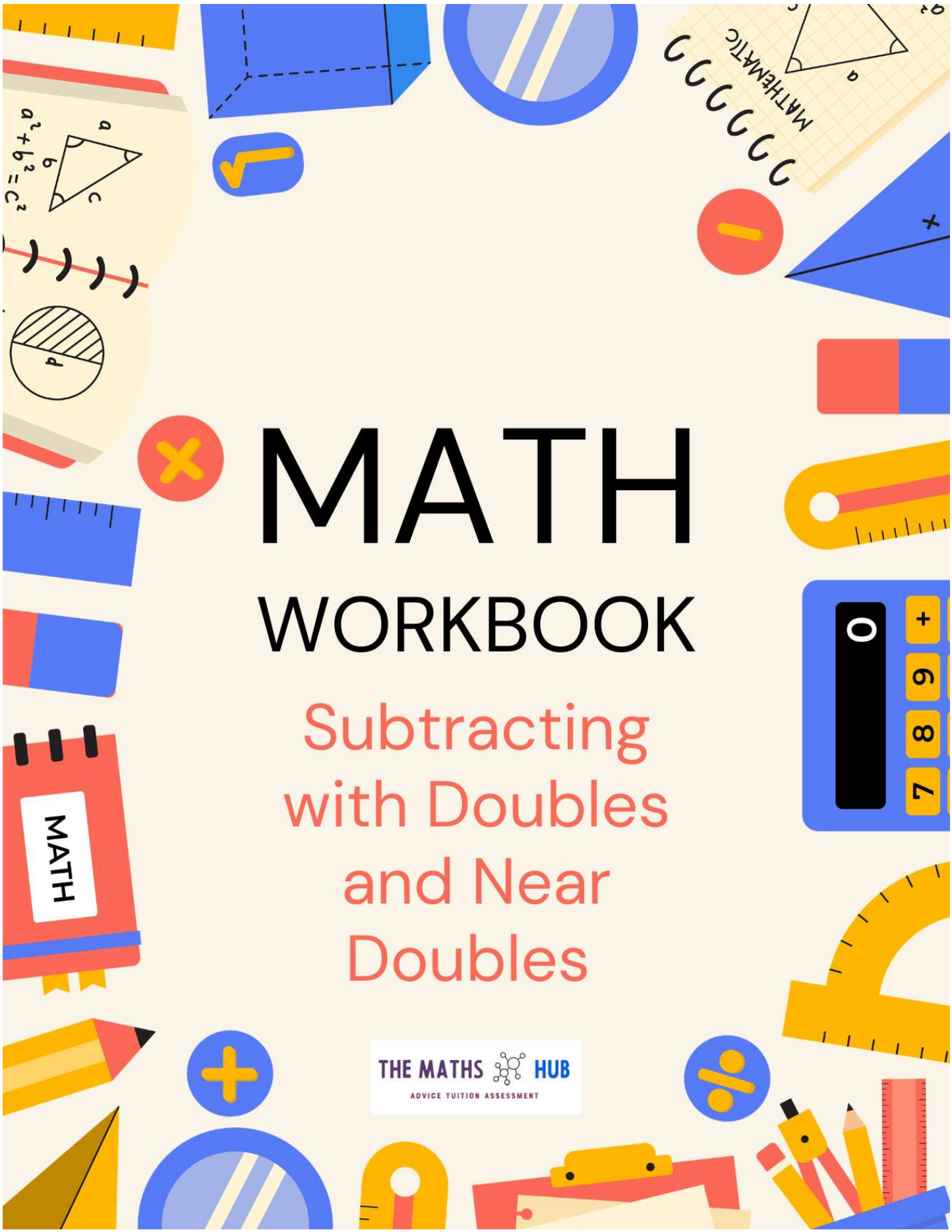
17 + 4 = _____

48 + 5 = _____

68 + 5 = _____

Answer Key

Part	Answers
A	13, 13, 13, 15, 15, 11, 15, 14, 14, 12, 17, 13, 12, 16, 11, 11
B	5, 3, 4, 8, 7, 7, 9, 7, 8, 5
C	2, 1, 14, 14, 8 + 5, 1 + 6
D	13, 13, 13, 15
E	Answers will vary
F	23, 33, 43, 53, 66, 34, 21, 73


MATH
WORKBOOK
Subtracting with Doubles and Near Doubles
THE MATHS HUB
ADVICE TUITION ASSESSMENT

Doubles and Near Doubles: Subtracting a Single-Digit Number from a Two-Digit Number

Use cue cards and the appendix resources when needed. Choose representations that help you explain your thinking and show your strategy.

Example

17 − 4

Think about: 7 − 4 = 3

So: 17 − 4 = 13

Part A: Doubles and Near Doubles Facts

Use your doubles and near doubles facts to solve the calculations.

17 − 4 = ____	14 − 2 = ____
____ = 12 − 1	____ = 19 − 4
19 − 5 = ____	13 − 2 = ____
____ = 15 − 2	____ = 15 − 3
18 − 4 = ____	17 − 3 = ____
____ = 13 − 1	____ = 11 − 1
20 − 5 = ____	18 − 4 = ____
____ = 16 − 3	____ = 12 − 1

Part B: Missing Number

Use your near doubles facts to help you. Write the missing number on each line.

13 = 15 − ____ 20 − ____ = 15

19 − ____ = 15 17 − ____ = 14

12 − ____ = 11 12 = 14 − ____

18 − ____ = 14 19 − ____ = 14

13 − ____ = 12 15 − ____ = 12

Part C: Challenge

Use doubles and near doubles facts to solve the challenges.

Which doubles fact helps you solve 20 − 5?

6 − 3 8 − 4 10 − 5

Which strategy would you use? 17 − 4

☐ Counting back

☐ Doubles and near doubles

How does 19 − 5 relate to 9 − 5?

_____

Part D: Word Problems

Read each word problem carefully. Use your doubles and near doubles facts to help you find the answer.

A gaming app awards 17 points for a challenge. A player spends 4 points to unlock a bonus feature. How many points are left?

Answer: _____

Lauren has 15 loyalty points. She redeems 2 points for a reward. How many loyalty points does she have now?

Answer: _____

A student wants to read 20 pages of a booklet. They have already read 5 pages. How many pages do they still need to read?

Answer: _____

Use the space below to write and answer your own word problem.

Answer: _____

Part E: Explain Your Thinking

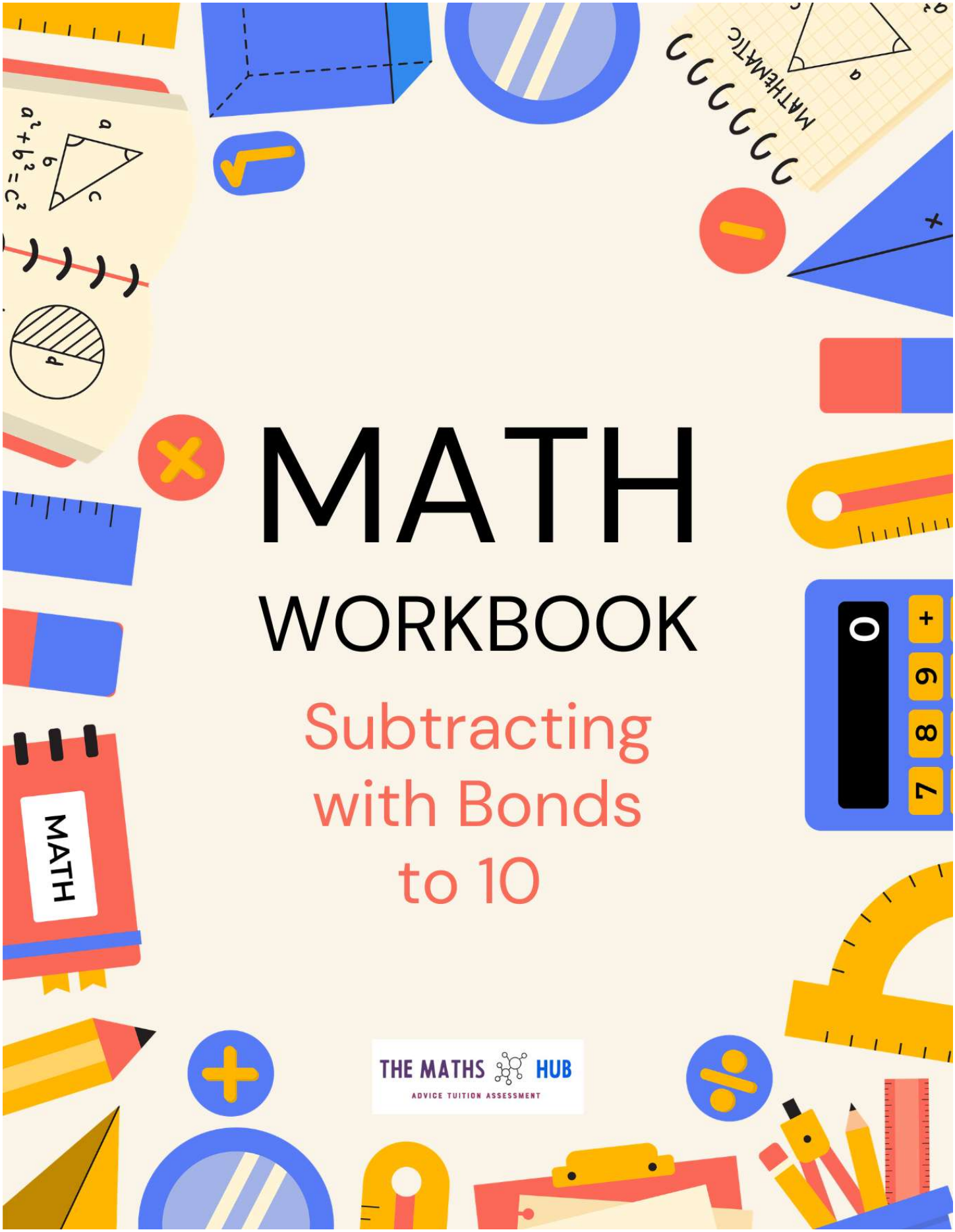
Use words, pictures or numbers to explain your strategy.

How did you solve 17 - 4?

How did you solve 15 - 2?

Answer Key

Part	Answers
A	13, 11, 14, 13, 14, 12, 15, 13, 12, 15, 11, 12, 14, 10, 14, 11
B	2, 4, 1, 4, 1, 5, 3, 2, 5, 3
C	10 − 5, Doubles and Near Doubles, answers will vary
D	13, 13, 15, 14
E	Answers will vary



MATH

WORKBOOK

Subtracting with Bonds to 10

THE MATHS HUB

ADVICE TUITION ASSESSMENT

Bonds to 10: Subtracting a Single-Digit Number From a Two-Digit Number

Use cue cards and the appendix resources when needed. Choose representations that help you explain your thinking and show your strategy.

Remember: *If you know a bond to 10, you can use it to solve a subtraction with 20.*

Example

10 − 7 = 3

If I know 10 − 7 = 3,

then 20 − 7 = 13.

I have one extra ten.

Part A: Bonds to 10 Facts

Use your bonds to 10 knowledge to solve the calculations.

20 − 8 = ____	20 − 4 = ____
____ = 20 − 3	____ = 20 − 8
20 − 6 = ____	20 − 9 = ____
____ = 20 − 9	____ = 20 − 6
20 − 5 = ____	20 − 3 = ____
____ = 20 − 1	____ = 20 − 5
20 − 7 = ____	20 − 2 = ____
____ = 20 − 2	____ = 20 − 7

Part B: Missing Number

Write the missing number on each line.

20 − ____ = 16

20 − ____ = 14

13 = 20 − ____

20 − ____ = 12

20 − ____ = 19

15 = 20 − ____

20 − ____ = 11

20 − ____ = 18

20 − ____ = 17

20 − ____ = 13

Part C: Challenge

Use bonds to 10 to solve the challenges.

How is 20 − 6 connected to 10 − 6?

Which bond of 10 helps solve 20 − 4?

10 − 4 = 6

10 − 5 = 5

10 − 7 = 3

How is 20 − 6 connected to 10 − 6?

If 10 − 3 = 7, what is 20 − 3?

If 10 − 8 = 2, what is 20 − 8?

Which bond to 10 helps you solve 20 − 8?

10 − 2 = 8

10 − 8 = 2

10 − 6 = 4

Part D: Word Problems

Read each word problem carefully. Use bonds to 10 to help you find the answer.

A student has 20 reward points. They spend 7 points on an upgrade. How many points remain?

Answer: _____

A playlist contains 20 songs. Four songs are removed. How many songs are still in the playlist?

Answer: _____

A challenge has 20 tasks to complete. Six tasks have been finished. How many tasks are left?

Answer: _____

A gamer starts with 20 credits and spends 9 credits. How many credits remain?

Answer: _____

Use the space below to write and answer your own word problem.

Answer: _____

Part E: Explain Your Thinking

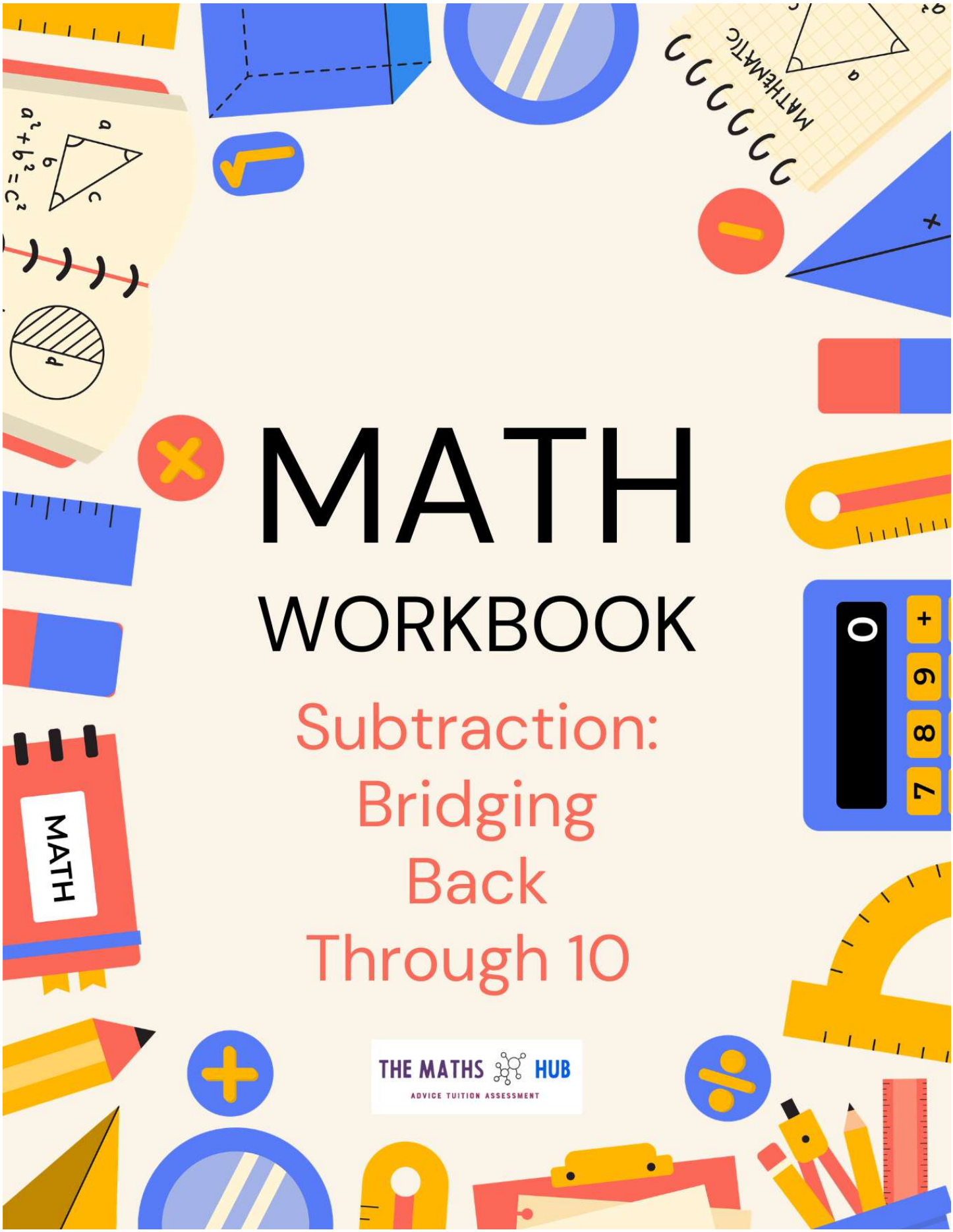
Use words, pictures or numbers to explain your strategy.

How did you solve 20 - 7?

How did you solve 20 - 8?

Answer Key

Part	Answers
A	12, 17, 14, 11, 15, 19, 13, 18, 16, 12, 11, 14, 17, 15, 18, 13
B	4, 7, 1, 9, 3, 6, 8, 5, 2, 7
C	10 − 6 = 4, 11, 10 − 4 = 6, 13, 17, 12
D	13, 16, 14, 11
E	Answers will vary


MATH
WORKBOOK
Subtraction:
Bridging
Back
Through 10
THE MATHS HUB
ADVICE TUITION ASSESSMENT

Bridging Back Through 10: Subtraction

Use cue cards and the appendix resources when needed. Choose representations that help you explain your thinking and show your strategy.

Remember:

To bridge back through 10, subtract enough to make 10 first, then subtract the rest.

Example:

15 − 7

15 − 5 = 10

10 − 2 = 8

So, 15 − 7 = 8

Part A: Bridging Back Through 10

Use bridging back through 10 to solve the calculations.

14 − 6 = ____	____ = 14 − 5
____ = 13 − 5	17 − 9 = ____
18 − 9 = ____	____ = 16 − 7
____ = 17 − 8	13 − 4 = ____
15 − 7 = ____	____ = 18 − 8
____ = 16 − 8	15 − 6 = ____
12 − 4 = ____	____ = 12 − 3

Part B: Missing Number

Write the missing number on each line.

17 − ____ = 9

14 − 5 = ____

8 = ____ − 6

____ − 9 = 9

15 − 7 = ____

19 − ____ = 11

____ − 8 = 11

9 = 13 − ____

18 − ____ = 10

____ − 7 = 10

Part C: Challenge

Use bridging back through 10 to solve the challenges.

When solving 16 − 8, how much do you subtract first to reach 10?

Which calculation bridges through 10?

8 − 3 17 − 8 6 – 2

How much must you subtract from 19 to make 10?

Which equation shows the first step when solving 14 − 6?

14 − 4 = 10 14 − 5 = 10 14 − 6 = 10

Part D: Word Problems

Read each word problem carefully. Use bridging back through 10 to help you find the answer.

Aaliyah has 15 songs saved in a playlist. She deletes 7 songs she no longer listens to. How many songs are left?

Answer: _____

Mateo needs 18 points to unlock a bonus level. He already has 9 points. How many more points does he need?

Answer: _____

Priya has 16 photos on her phone that she wants to edit. She finishes editing 8 photos. How many are left to edit?

Answer: _____

Jamal has 19 minutes left of a video to watch. He watches 8 minutes. How many minutes are still left?

Answer: _____

Use the space below to write and answer your own word problem.

Answer: _____

Extension Challenge

⭐ Part E: Show the Bridge

Complete the bridging steps.

15 − 7

15 − _____ = 10

10 − _____ = _____

19 − 8

19 − _____ = 10

10 − _____ = _____

17 − 8

17 − _____ = 10

10 − _____ = _____

18 − 9

18 − _____ = 10

10 − _____ = _____

14 − 6

14 − _____ = 10

10 − _____ = _____

⭐ Part F: True or False

Circle true or false.

17 − 8 = 9

True / False

16 − 8 = 7

True / False

14 − 6 = 7

True / False

19 − 8 = 11

True / False

⭐ Part G: Explain Your Thinking

Use words, pictures, or numbers to explain how you solved each question.

How did you solve 17 − 9?

How did you solve 15 − 6?

⭐ Part H: Explain the Mistake

Jordan says:

18 − 9

18 − 8 = 10

10 − 1 = 10

Answer = 10

Is Jordan correct?

Yes / No

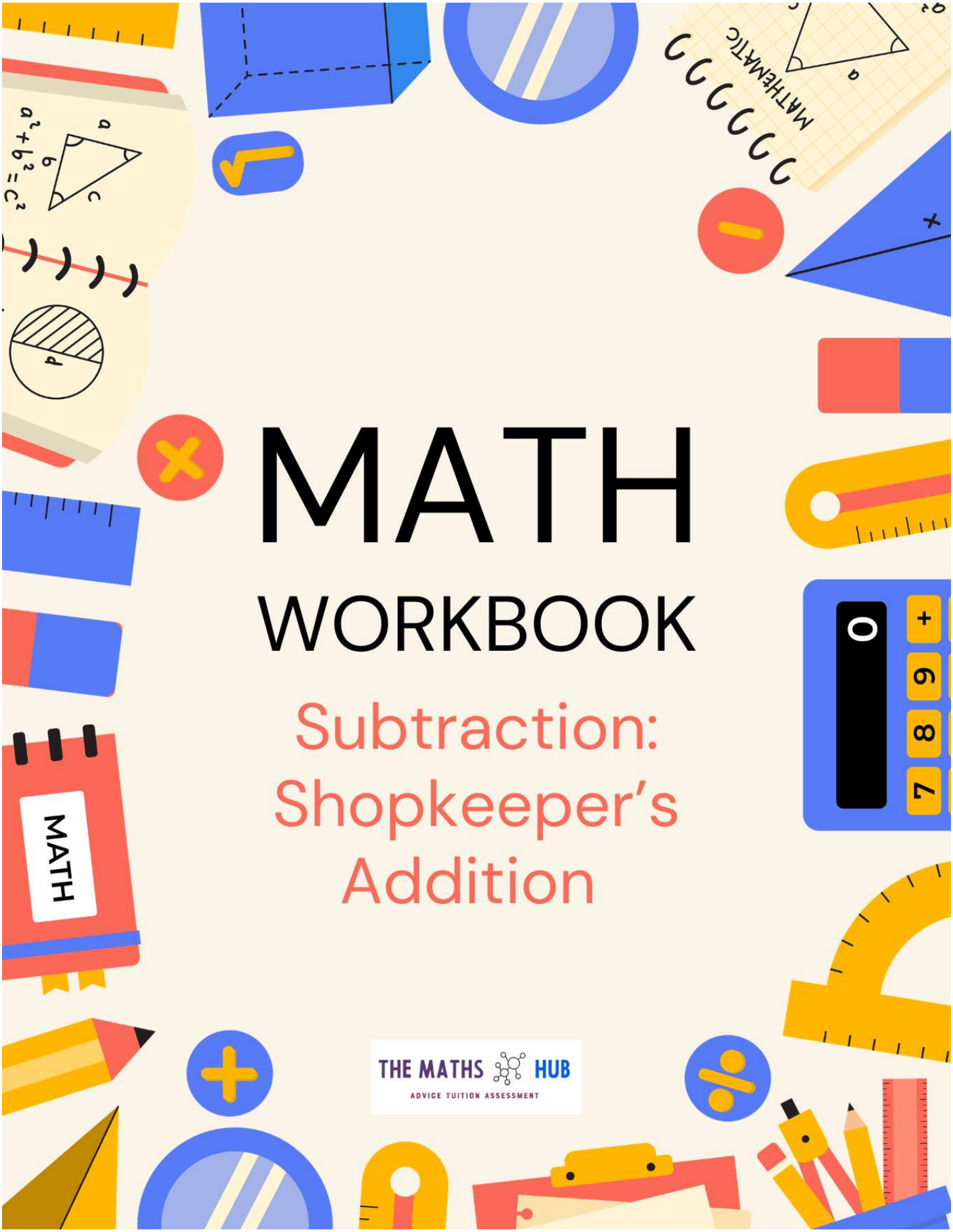
Correct answer: _____

Explain the mistake.

_____

Answer Key

Part	Answers
A	8, 8, 9, 9, 8, 8, 8, 9, 8, 9, 9, 10, 9, 9
B	8, 14, 8, 19, 8, 9, 18, 8, 4, 17
C	6, 9, 17 − 8, 9, 9, 14 − 4 = 10
D	8, 9, 8, 11
E	5, 2, 8; 7, 1, 9; 4, 2, 8; 9, 1, 11; 8, 1, 9
F	True, False, True, True, False, True, True, False
G	Answers will vary.
H	No, answers will vary.


MATH
WORKBOOK
Subtraction:
Shopkeeper's
Addition
THE MATHS HUB
ADVICE TUITION ASSESSMENT

Shopkeeper's Addition: Finding the Difference

Use cue cards and the appendix resources when needed. Choose representations that help you explain your thinking and show your strategy.

Remember:

Instead of subtracting, ask:

"What do I need to add to the smaller number to make the larger number?"

Example:

12 − 8 = ?

Think:

8 + ? = 12

8 + 4 = 12

Therefore:

12 − 8 = 4

Part A: Shopkeeper's Addition

Solve each subtraction by turning it into a missing number addition question.

12 − 8 = ____

8 + ____ = 12

Therefore, 12 − 8 = ____

16 − 9 = ____

9 + ____ = 16

Therefore, 16 − 9 = ____

15 − 9 = ____

9 + ____ = 15

Therefore, 15 − 9 = ____

18 − 6 = ____

6 + ____ = 18

Therefore, 18 − 6 = ____

14 − 7 = ____

7 + ____ = 14

Therefore, 14 − 7 = ____

19 − 7 = ____

7 + ____ = 19

Therefore, 19 − 7 = ____

Part B: Missing Number

Solve the missing number addition problem. Then write the subtraction fact it helps you solve.

8 + ____ = 12

This helps me solve:

_____

8 + ____ = 17

This helps me solve:

_____

15 = 6 + ____

This helps me solve:

_____

5 + ____ = 13

This helps me solve:

_____

7 + ____ = 19

This helps me solve:

_____

20 = 8 + ____

This helps me solve:

_____

9 + ____ = 18

This helps me solve:

_____

7 + ____ = 14

This helps me solve:

_____

4 + ____ = 11

This helps me solve:

_____

6 + ____ = 18

This helps me solve:

_____

Part C: Challenge

Use shopkeeper's addition to solve the challenges.

What is 16 − 9?

Think: 9 + ____ = 16

Answer: _____

Which addition fact helps solve 19 − 7?

7 + 12 = 19 7 + 9 = 16 7 + 6 = 13

What is 20 − 8?

Think: 8 + ____ = 20

Answer: _____

Which number is closer to 20? 18 or 14? _____

True or False? The difference between 12 and 18 is 8. _____

Which addition fact helps solve 13 − 5?

5 + 8 = 13 5 + 7 = 12 5 + 9 = 14

Which question is easiest to solve using Shopkeeper's Addition?
18 − 13 20 − 5 19 - 12

What is the difference between: 14 and 18? _____

Part D: Word Problems

Read each word problem carefully. Use shopkeeper's addition to help you find the answer.

A player scored 13 points in one game and 18 points in another. What was the difference between the two scores?

Answer: _____

A cyclist travelled 12 km on Monday and 17 km on Tuesday. How much farther did the cyclist travel on Tuesday?

Answer: _____

One student read 14 pages. Another student read 19 pages. How many more pages did the second student read?

Answer: _____

A T-shirt costs £12. A hoodie costs £18. How much more does the hoodie cost?

Answer: _____

Use the space below to write and answer your own word problem.

Answer: _____

Extension Challenge

⭐ Part E: Which Subtraction Fact?

Use shopkeeper's addition to work out which subtraction fact is being solved.

7 + ____ = 15

This helps me solve:

_____

Answer: _____

Sophia says:

13 − 5

5 + 7 = 13

Answer = 7

Is Sophia correct?

Yes / No

Correct answer: _____

5 + ____ = 13

This helps me solve:

_____

Answer: _____

8 + ____ = 17

This helps me solve:

_____

Answer: _____

9 + ____ = 20

This helps me solve:

_____

Answer: _____

⭐ Part F: Explain Your Thinking

Use words, pictures, or numbers to explain how you solved each question.

How did you solve 19 − 7 using shopkeeper's addition?

How did you solve 15 − 9 using shopkeeper's addition?

Answer Key

Part	Answers
A	4, 4, 4, 6, 6, 6, 7, 7, 8, 8, 9, 7, 7, 7, 12, 12, 7, 7, 12, 12
B	4, 12 − 8 = 4, 9, 15 − 6 = 9, 12, 19 − 7 = 12, 9, 18 − 9 = 9, 7, 11 − 4 = 7, 9, 17 − 8 = 9, 8, 13 − 5 = 8, 12, 20 − 8 = 12, 7, 14 − 7 = 7, 12, 18 − 6 = 12
C	7, 7 + 12 = 19, 12, 18, False, 5 + 8 = 13, 18 − 13, 4
D	5, 5, 5, 6
E	15 − 7 = 8, 20 − 9 = 11, 13 − 5 = 8, 17 − 8 = 9
F	15 − 7 = 8, 8; 20 − 9 = 11, 11; 13 − 5 = 8, 8; 17 − 8 = 9, 9
G	Answers will vary.

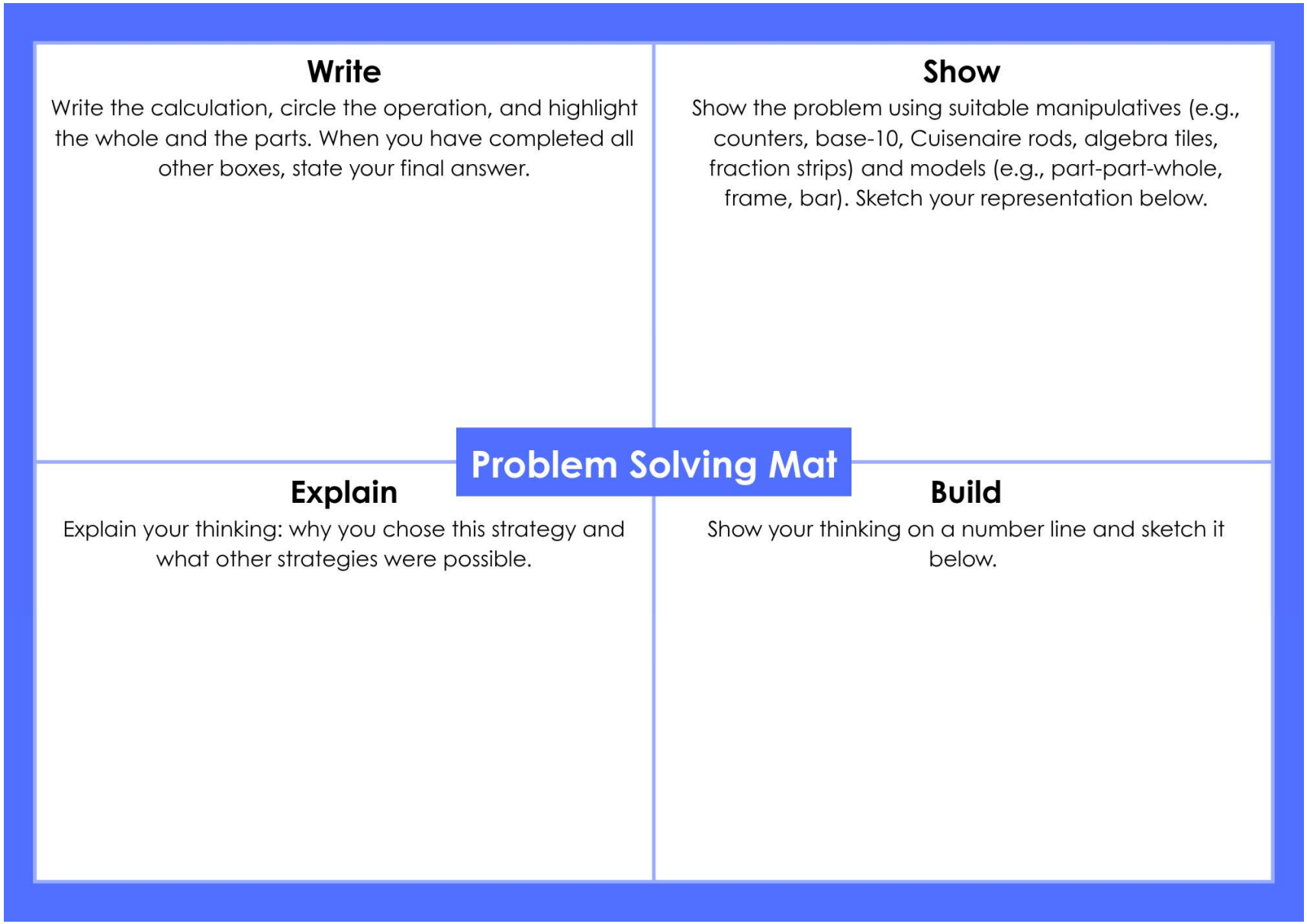
Appendices

The resources in this section may be used to support learning throughout the workbook.

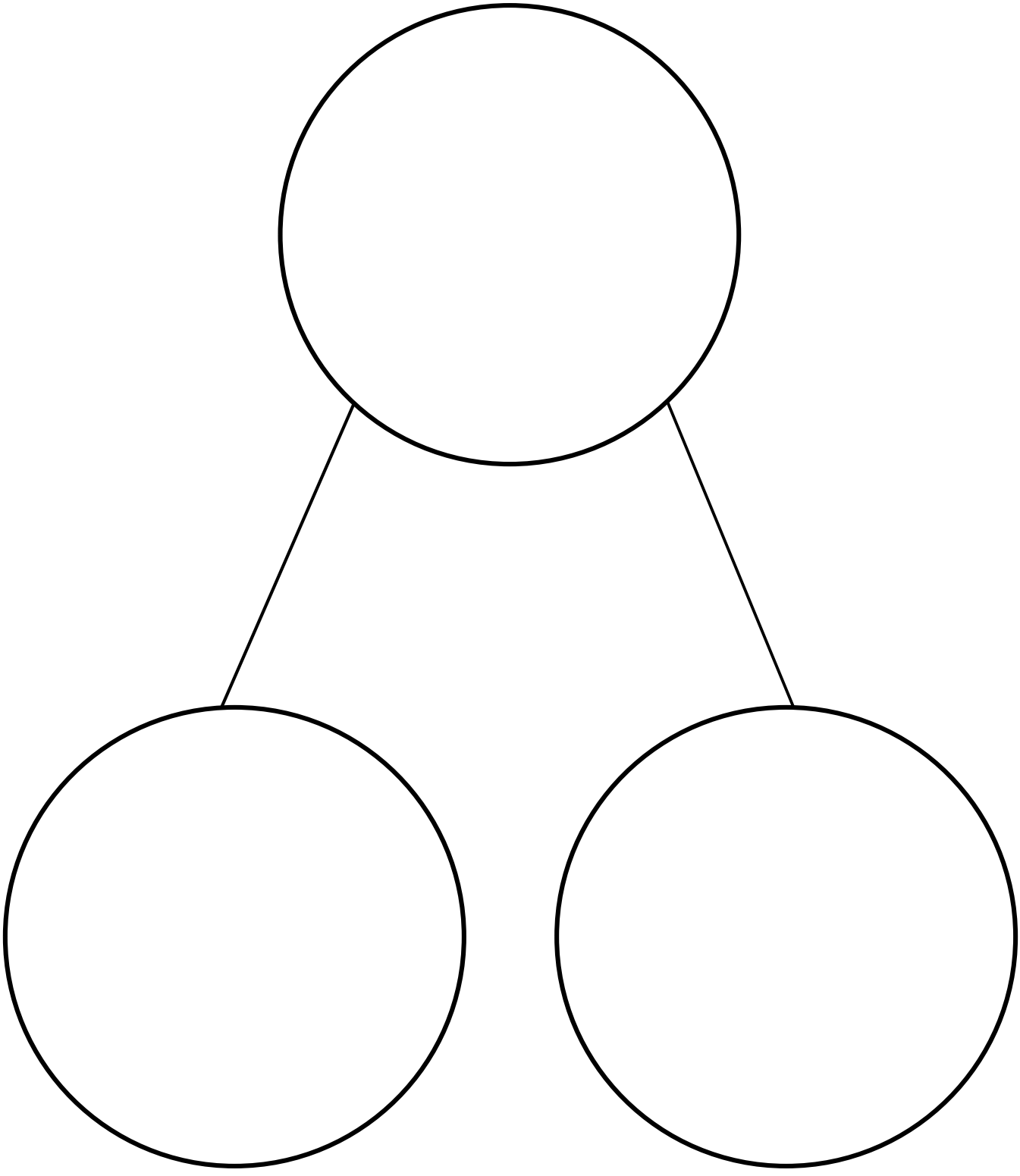
Appendix 1. Mathematics Resources

Resource	Link
Algebra Tiles	Open Resource
Base-10	Open Resource
Counters	Open Resource
Cuisenaire Rods	Open Resource
Fraction Strips	Open Resource
Number Frames	Open Resource

Appendix 2. Problem Solving Mat



Appendix 3. Part-Part-Whole Model

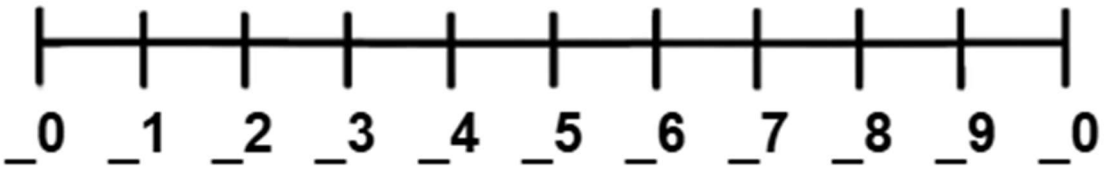


Appendix 4. Number Frames

Appendix 5. Bar Model

Appendix 6. Number Lines

Make Your Own Number Line



Decades Number Line