

- We will begin with Addition and Subtraction understanding Please complete this work in your homework book.
- Read the **examples** in blue try it out and then work on the exercises given.
- It is important that you solve all the problems.

Addition and subtraction strategies

I am learning to add by splitting up numbers into parts to make tens.

Examples:

1. The farmer has 28 cows. She buys some more cows at the stock sale. Now she has 33 cows. How many cows did she buy?

$$28 + \square = 33$$

$$33 = 28 + 2 + 3$$

$$\square = 5$$

2. $7 + \square = 13$

$$13 = 7 + 3 + 3$$

5

$$\square = 6$$

3. $18 + \square = 23$

$$23 = 18 + 2 + 3$$

$$\square = 5$$

4. $56 + \square = 65$

$$65 = 56 + 4 + 5$$

$$\square = 9$$

Exercise

Use the strategy shown in the example to find the answers to the following problems.

1. $13 + \square = 24$

2. $17 + \square = 26$

3. $27 + \square = 32$

4. $26 + \square = 34$

5. $34 + \square = 46$

6. $25 + \square = 34$

7. $34 + \square = 49$

8. $27 + \square = 36$

9. $47 + \square = 53$

10. $56 + \square = 67$

11. $59 + \square = 68$

12. $68 + \square = 77$

13. $89 + \square = 93$

14. $87 + \square = 94$

15. $88 + \square = 97$

Word problems

16. Jake has 45 marbles and Pete gives him some more. He now has 56 marbles. How many marbles Pete give him?
17. Kylie has 75 Pokemon stickers in her collection. Her friend gives her some more. If she now has 84 stickers how many did her friend give her?
18. There are 29 people on the bus. At the next stop, some more people get on. If there are now 36 people on the bus how many people got on at the bus stop?
19. Mike has \$72 in his piggy bank. He put some more money in and now has \$85. How much money did he put into his piggy bank?
20. Write 4-word problems of your own then can easily be done using this strategy.

Subtracting in Parts 1

I am learning to subtract by splitting numbers into parts instead of counting down.

Examples:

1. Brian has 14 oranges and eats six of them. How many are left?

$$\begin{aligned} 14 - 6 &= \square \\ 14 - 6 &= 10 + 4 - 6 \\ &= 8 \end{aligned}$$

2. Find $16 - 9 = \square$
 $16 - 9 = 10 + 6 - 9$
 $= 7$

3. Tara has \$34 and spends \$5. How much money does she have left?
 $34 - 5 = 24 + 10 - 5$
 $= 29$

Exercise

1. $20 - 5 =$
2. $11 - 4 =$
3. $13 - 6 =$
4. $45 - 6 =$
5. $30 - 5 =$
6. $46 - 7 =$

- | | | |
|----------------|----------------|----------------|
| 7. $32 - 7 =$ | 8. $40 - 8 =$ | 9. $33 - 6 =$ |
| 10. $43 - 5 =$ | 11. $35 - 7 =$ | 12. $40 - 9 =$ |
| 13. $26 - 8 =$ | 14. $31 - 5 =$ | 15. $31 - 3 =$ |
| 16. $40 - 7 =$ | 17. $75 - 8 =$ | 18. $90 - 8 =$ |
| 19. $96 - 9 =$ | 20. $61 - 5 =$ | 21. $51 - 6 =$ |

Word problems

- Mrs Jones has \$35 in her purse. If she spends \$8 at the tuck shop how much money does she have in her purse now?
- Mike has 15 grapes and he eats 8 of them. How many grapes does he have left?
- 54 people are on the waiting list for tickets to a special event at the stadium. If 6 people get tickets how many people are still on the waiting list?
- Richard has 46 marbles. If he gives 7 of them to his sister how many does he have now?
- Write 3-word problems of your own then can easily be done using this strategy.

Subtracting in Parts 2

I am learning to subtract by splitting numbers into parts instead of counting down.

Examples:

- $23 - 8$
Rewrite 8 as 3 and 5
 $23 - 3 = 20$, $20 - 5 = 15$

Exercise

- | | | | |
|-----------------|-----------------|-----------------|-----------------|
| 1. $45 - 6$ | 2. $54 - 7$ | 3. $82 - 6$ | 4. $73 - 5$ |
| 5. $84 - 16$ | 6. $92 - 25$ | 7. $53 - 27$ | 8. $65 - 28$ |
| 9. $76 - 19$ | 10. $67 - 28$ | 11. $125 - 36$ | 12. $143 - 85$ |
| 13. $132 - 65$ | 14. $174 - 28$ | 15. $151 - 67$ | 16. $126 - 49$ |
| 17. $234 - 56$ | 18. $227 - 88$ | 19. $352 - 67$ | 20. $314 - 37$ |
| 21. $425 - 107$ | 22. $433 - 126$ | 23. $452 - 266$ | 24. $511 - 234$ |
| 25. $620 - 353$ | 26. $746 - 288$ | 27. $837 - 259$ | 28. $961 - 495$ |

29. 922 - 874 30. 903 - 798

Comparisons

I am learning to add and subtract using comparisons of sets.

Examples:

1. Martin has \$7 and David has \$3 more than Martin. How much money does David have?
David has $\$7 + \3 , ie \$10.
2. Tusi has \$11 and Mere has \$8 less than Tusi. How much money does Mere have?
Mere has $\$11 - \8 , ie \$3.

Exercise

Write down the sum that you need to do to work out the answer as well as the final answer.

1. Kane has 8 marbles and Jack has 3 more than Kane. How many marbles does Jack have?
2. Mary has 11 star wars figures. Jane has 2 less than Mary. How many star wars figures does Jane have.
3. Mike has 7 greatest hits albums and John has 3 more. How many greatest hits albums does John have?
4. Karen has 4 playstation games and her brother has 5 more. How many Play Station games does Karen's brother have?
5. Louis has \$8 less than his brother. If his brother has \$20 how much money does Louis have?
6. There are 11 students in the chess club at HIBS. The chess club at Chilton has 5 more students. How many students are in the chess club at Chilton?
7. 12 students from HA tutor group volunteer to be helpers on open day. 5 less volunteer to help from AJ tutor group. How many students from AJ have offered to be helpers on open day?
8. The bus to Upper Hutt has 28 people on it. There are 6 more people on the bus to Wainuiomata. How many people are on the bus to Wainuiomata?
9. Lisa has 12 Simpsons stickers and Bart has 4 less. How many Simpsons stickers does Bart have?
10. Marge has 10 clips on her coffee card and Selma has 8 less than this on her coffee card. How many clips does Selma have on her coffee card?
11. Cameron has had to visit the main office twice this term. Steve has been sent to the office 11 more times than Cameron. How many times has Steve been sent to the office this term?

Saving tens

I am low knowing that 10 ones make ten and 10 tens make 100 can help me solve problems like $43 + \square = 80$.

Example:

$$\begin{aligned}36 + \square &= 80 \\36 + 4 + 40 &= 80 \\ \square &= 44\end{aligned}$$

1. $66 + \square = 90$

2. $37 + \square = 70$

3. $24 + \square = 50$

4. $45 + \square = 70$

5. $32 + \square = 60$

6. $28 + \square = 70$

7. $54 + \square = 90$

8. $26 + \square = 40$

9. $63 + \square = 80$

10. $17 + \square = 40$

11. $55 + \square = 80$

12. $13 + \square = 90$

13. $63 + \square = 100$

14. $74 + \square = 100$

15. $38 + \square = 100$

16. $44 + \square = 100$

17. $56 + \square = 100$

18. $17 + \square = 100$

19. $29 + \square = 100$

20. $35 + \square = 100$

21. $26 + \square = 100$

22. $83 + \square = 100$

23. $66 + \square = 100$

24. $51 + \square = 100$

25. $100 - \square = 62$

26. $100 - \square = 34$

27. $100 - \square = 53$

28. $100 - \square = 83$

29. $100 - \square = 14$

30. $100 - \square = 44$

Saving hundreds

I am learning how knowing 10 ones make one 10 and 10 tens make 100 can help me solve problems like $56\square + \square = 800$.

Examples:

(1) $567 + \square = 800$
 $567 + 3 + 30 + 200 = 800$
400

(2) $283 + \square = 400$
 $283 + 7 + 10 + 100 =$

100 so $\square = 3 + 30 + 200$
 $\square = 233$

so $\square = 7 + 10 +$
 $\square = 117$

(3) $72 + \square = 500$
 $72 + 8 + 20 + 400 = 500$
 so $\square = 8 + 20 + 400$
 $\square = 428$

Exercises

Use the strategy above to find the answers to these additions.

1. $95 + \square = 600$
500

2. $85 + \square = 700$

3. $80 + \square =$

4. $175 + \square = 400$
400

5. $165 + \square = 700$

6. $255 + \square =$

7. $82 + \square = 600$
400

8. $178 + \square = 600$

9. $244 + \square =$

10. $183 + \square = 400$
500

11. $257 + \square = 800$

12. $191 + \square =$

13. $164 + \square = 700$
600

14. $251 + \square = 600$

15. $243 + \square =$

16. $289 + \square = 1000$
1000

17. $564 + \square = 1000$

18. $353 + \square =$

19. $\square + 37 = 700$
1000

20. $\square + 437 = 600$

21. $\square + 782 =$

22. $456 + \square = 1300$
1100

23. $261 + \square = 1500$

24. $489 + \square =$

25. Joseph has \$280 saved already. How much more money does he need to save to meet his target of \$1000.

26. A soccer team wants to sell 800 raffle tickets to raise money. If they sell 545 in the first week how much more do they need to sell.

27. There are 1200 seats set out in the hall for a school production. If 868 people turn up to see the production of how many empty seats are there in the hall.

28. Make up three-word problems of your own that can be worked out using this strategy.

How Many Tens Dollar Notes?

I am learning how many tens there are in numbers less than 1000.

Examples:

1. Mrs Jones takes her class to the circus. She has \$237 to pay for the students to get in. Admission is \$10 per person. She has 25 students in her class. Does she have enough money?
She has \$200, \$30 and \$7. The \$30 will give admission for 3 students, the \$200 is 20 lots of \$10 so that is 20 students. The \$7 is not enough for 1 admission. Mrs Jones does not have enough money.
2. A bank only has ten-dollar notes and one-dollar coins. Murray withdraws \$234. How many ten-dollar notes does Murray get?
3 from the \$30 and 10 from each \$100 so \$200 gives 20 \$20 notes. Altogether he will get 23 \$10 notes.
3. Boxes of chocolates cost \$10 each. How many boxes can Charlotte buy if she has \$589 to spend?
For the \$89 she will get 8 boxes and from the \$500 she will get 10 boxes for each \$100 so she will get 50. Altogether she will be able to buy 58 boxes.

Exercise

A bank only has ten-dollar notes and one-dollar coins. Copy and complete the table:

| Money Withdrawn | Number of Ten-Dollar notes | Number of One-Dollar coins |
|-----------------|----------------------------|----------------------------|
| \$86 | | |
| \$469 | | |
| \$302 | | |
| \$685 | | |
| \$800 | | |
| \$328 | | |
| | 8 | 4 |
| | 56 | 3 |
| | 37 | 0 |
| | 60 | 5 |
| | 30 | 0 |
| | 92 | 1 |

Word Problems

1. Mr Hannah collects \$10 from each child in his class. If he has 21 children in his class how much money does he collect?
2. Boxes of chocolates cost \$10. How many boxes can Karen buy if she has \$281?
3. Jacqui sells 54 packets of hair ties for \$10 each. How much money has she collected?
4. Mrs Felise collected \$10 from each child in her class. She has collected \$270. How many children are there in her class?
5. Write 3-word problems of your own that are like the problems above.

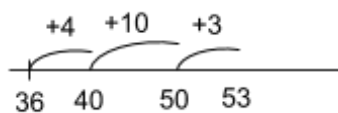
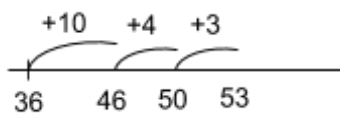
Jumping the Number Line 1

I am learning to jump through a tidy number on a number line to solve problems like $\square + \square = 91$.

Examples:

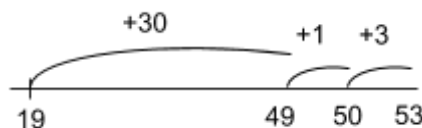
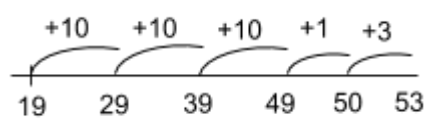
Problems can be done on the empty number line using different skips. Here are two examples:

$$36 + 17 =$$



$$36 + 17 = 53$$

$$19 + 34 =$$



$$19 + 34 = 53$$

Exercise 1

Use the strategy of skipping on the number line to do these additions. Use whatever skips you like using.

1. $25 + 18 =$

2. $36 + 17 =$

3. $55 + 16 =$

4. $47 + 26 =$

5. $66 + 29 =$

6. $64 + 27 =$

7. $48 + 35 =$

8. $38 + 44 =$

9. $48 + 35 =$

10. $29 + 54 =$

11. $38 + 56 =$

12. $27 + 57 =$

13. $68 + 74 =$

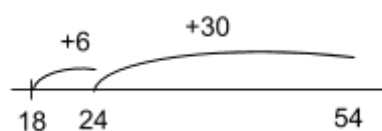
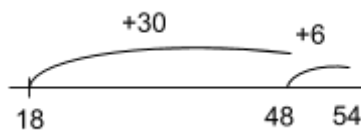
14. $69 + 86 =$

15. $75 + 86 =$

Larger numbers, fewer skips:

Example: Larger numbers, fewer skips:

$18 + 36 =$



$18 + 36 = 54$

Exercise 2

16. $127 + 17 =$

17. $136 + 19 =$

18. $117 + 24 =$

19. $248 + 43 =$

20. $315 + 66 =$

21. $356 + 35 =$

22. $265 + 207 =$

23. $329 + 102 =$

24. $458 + 304 =$

25. $457 + 56 =$

26. $563 + 48 =$

27. $555 + 56 =$

28. $1234 + 84 =$

29. $2647 + 250 =$

30. $4829 + 350 =$

=

Word Problems

For each of these problems, use number line skips to help you work out the answer.

31. 47 students travel on one special bus, and 36 on another. How many were on the two buses?
32. Karla buys a bunch of flowers and a book for her mother's birthday. If the flowers cost \$26 and the book \$18, how much did she spend in total?
33. It costs \$67 for a model plane and \$48 for a remote control car. How much do both things cost?
34. Peter reads 57 pages of his English book on Saturday, and 64 pages on Sunday. How many pages has he read over the weekend?
35. Hiria has sold 87 raffle tickets, Wal sold 44. How many did they sell in total?
36. If there are 138 until Matiu's birthday and then another 55 days until Christmas. How many days is it until Christmas?

37. When delivering newspapers, John delivers 128 on one run, and 84 on another run. How many does he deliver in total?
38. Matt has \$367 in his bank account and \$57 in his wallet. How much does he have altogether?
39. When travelling on holiday a car drives 387 km on one tank of petrol and 410 km on another tank. How far did the car travel in total?

Multiplication and Division



- Each exercise has an **example**, you must read and understand this fully before attempting the exercises
- Do not miss out any questions or exercises
- Learning from these booklets is student lead, ask others in your group who have the same booklet for assistance before asking your teacher
- Set out your answers as asked in each exercise and always put the title of your exercise

Multiplying Tens

I am learning to multiply tens, hundreds, thousands, and other tens numbers.

Examples:

1. $4 \times 20 = \square$, as $4 \times 2 = 8$
 $\square = 80$

2. $6 \times 50 = \square$, as $6 \times 5 = 30$
 $\square = 300$

3. $5 \times 30 = \square$, as $5 \times 3 = 15$
 $\square = 150$

Exercise

Do the problems in your head first. Check you are right by writing them down like the examples above.

1. $4 \times 30 = \square$

2. $4 \times 50 = \square$

3. $2 \times 70 = \square$

4. $2 \times 80 = \square$

5. $2 \times 90 = \square$

6. $3 \times 80 = \square$

7. $40 \times 5 = \square$

8. $40 \times 6 = \square$

9. $50 \times 7 = \square$

10. $70 \times 5 = \square$

11. $50 \times 70 = \square$

12. $500 \times 7 = \square$

13. $8 \times 30 = \square$

14. $80 \times 3 = \square$

15. $8 \times 300 = \square$

16. $800 \times 3 = \square$

17. $80 \times 30 = \square$

18. $7 \times 300 = \square$

19. $6 \times 50 = \square$

20. $600 \times 5 = \square$

21. $60 \times 50 = \square$

22. $40 \times 8 = \square$

23. $8 \times 400 = \square$

24. $80 \times 40 = \square$

25. $60 \times 300 = \square$

26. $400 \times 300 = \square$

27. $700 \times 400 = \square$

28. $7000 \times 20 = \square$

29. $2000 \times 50 = \square$

30. $300 \times 5000 = \square$

Tens in Hundreds and More

I am learning to multiply and divide numbers by tens, hundreds, and thousands.

Examples:

1. Mrs Hau collects \$10 from each of her students for a visit to the zoo. She has a total of \$180. How many students are going to the zoo?
 $18 \times \$10 = \180 , so 18 students will be going to the zoo.
2. How much is $78 \times \$10$? $\longrightarrow 78 \times \$10 = \$780$
3. If I have \$2500 how many \$100 notes do I have?
 $25 \times \$100 = \2500 , so I will have 25 \$100 notes

Exercise

Do the problems in your head first. Show them like the examples above.

How many \$10 notes are there in the following?

- | | | | |
|----------|----------|----------|----------|
| 1. \$230 | 2. \$140 | 3. \$200 | 4. \$160 |
| 5. \$860 | 6. \$900 | 7. \$340 | 8. \$660 |

Work out the answers to the following:

- | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 9. $13 \times \$10$ | 10. $15 \times \$10$ | 11. $78 \times \$10$ | 12. $34 \times \$10$ |
| 13. $77 \times \$10$ | 14. $273 \times \$10$ | 15. $615 \times \$10$ | 16. $798 \times \$10$ |
| 17. $304 \times \$10$ | 18. $730 \times \$10$ | 19. $687 \times \$10$ | 20. $986 \times \$10$ |

How many \$100 notes are there in the following?

- | | | | |
|-------------|-------------|-------------|-------------|
| 21. \$2,000 | 22. \$1,300 | 23. \$2,100 | 24. \$1,100 |
| 25. \$6,000 | 26. \$7,800 | 27. \$2,400 | 28. \$5,670 |

Work out the answers to the following:

- | | | | |
|------------------------|------------------------|------------------------|------------------------|
| 29. $120 \times \$100$ | 30. $490 \times \$100$ | 31. $530 \times \$100$ | 32. $610 \times \$100$ |
| 33. $470 \times \$100$ | 34. $720 \times \$100$ | 35. $840 \times \$100$ | 36. $930 \times \$100$ |

How many \$1000 notes are there in the following?

- | | | | |
|-------------|-------------|-------------|--------------|
| 37. \$4,000 | 38. \$7,000 | 39. \$2,000 | 40. \$13,300 |
| 41. \$2,600 | 42. \$4,560 | 43. \$2,380 | 44. \$16,430 |

How many \$1,000 notes to make

45. \$1,000,000 46. \$3,500,000 47. \$4,567,000?

How many \$10,000 notes to make

48. \$670,000 49. \$560,000?

How many \$100,000 notes to make

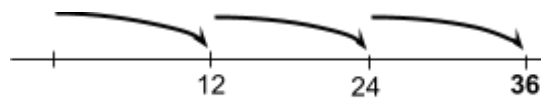
50. \$2.5 million 51. \$5 million?

Skip Counting

I am using skip counting on the number line to help me work out bigger multiplications.

Example:

3×12 Using the number line:
 $= 36$



so 3×12

Show how you would use skip counting to solve these problems:

- | | | | |
|-------------------|-------------------|-------------------|-------------------|
| 1. 3×15 | 2. 3×14 | 3. 4×13 | 4. 3×18 |
| 5. 4×19 | 6. 3×21 | 7. 3×16 | 8. 4×17 |
| 9. 5×14 | 10. 4×14 | 11. 3×23 | 12. 4×18 |
| 13. 5×19 | 14. 6×14 | 15. 5×13 | 16. 6×15 |
| 17. 5×18 | 18. 4×35 | | |

Word Problems

19. Anton's pool is 24m long. He keeps count of his total distance by counting laps.
After 5 laps, how far has he swum?
20. Pete's climbing rope is 18m long. He and his partner climb in 'pitches', which is one length of the rope. After 5 'pitches', how far has he climbed?
21. Ben's Eggs come in packs of 15. How many eggs are in 6 packs?

22. Mini mars bars come in packs of 13. Mrs Jones buys 6 of these multipacks for prizes. How many mini mars bars will she have altogether?
23. Write 3 more work problems of your own that could be done using this strategy.

I am learning to solve multiplication problems by taking some off or putting some on (compensation).

Examples:

1. $4 \times 10 = 40$, so what is 4×9 ?
 $4 \times 9 = 40 - 4$
 $= 36$
2. $9 \times 10 = 90$, so what is 9×9 ?
 $9 \times 9 = 90 - 9$
 $= 81$
3. $6 \times 50 = 300$ so what are 6×49 and 6×52 ?
 $6 \times 49 = 300 - 6$ $6 \times 52 = 300 + 12$
 $= 294$ $= 312$

Do the problems in your head first. Check you are right by writing them down like the examples above.

- 1 $7 \times 10 = 70$ so what is 7×11 ?
- 2 $8 \times 5 = 40$ so what is 8×4 ?
- 3 $9 \times 10 = 90$ so what is 9×11 ?
- 4 $4 \times 10 = 40$ so what is 4×9 ?
- 5 $5 \times 12 = 60$ so what is 5×13 ?
- 6 $11 \times 10 = 110$ so what is 11×12 ?
- 7 $7 \times 10 = 70$ so what is 7×9 ?
- 8 $8 \times 10 = 80$ so what is 8×9 ?
- 9 $10 \times 4 = 40$ so what is 10×3 ?
- 10 $6 \times 10 = 60$ so what is 6×9 ?
- 11 $4 \times 50 = 200$ so what are 4×49 and 4×51 ?
- 12 $3 \times 40 = 120$ so what are 3×39 and 3×41 ?
- 13 $4 \times 30 = 120$ so what are 4×28 and 4×32 ?
- 14 $7 \times 30 = 210$ so what are 7×29 and 7×31 ?
- 15 $6 \times 200 = 1200$ so what are 6×198 and 6×201 ?
- 16 $7 \times 200 = 1400$ so what are 7×198 and 7×202 ?
- 17 $8 \times 300 = 2400$ so what are 8×302 and 8×299 ?
18. $9 \times 300 = 2700$ so what are 9×302 and 9×299 ?