St Ninian's High School
S1 Daily Homework Booklet
Aug to Oct

Contents

Whole Numbers

Exercise 1

Round the following numbers correct to the **nearest whole number**.

1) 15·32 **2)** 327·8 **3)** 59·52 **4)** 738·29 **5)** 826·192 **6)** 1234·5

7) 987·65 **8)** 13·84 **9)** 7·532 **10)** 123·45 **11)** 43·34 **12)** 152·4

13) 246·8 **14)** 38·25 **15)** 49·18 **16)** 99·08 **17)** 99·8 **18)** 1·234

19) 0·82 **20)** 3842·7

Round the following numbers to the **nearest ten**.

21) 43 **22)** 53 **23)** 74 **24)** 79 **25)** 86 **26)** 35

27) 48 **28)** 23 **29)** 123 **30)** 342 **31)** 346 **32)** 519

33) 876 **34)** 753 **35)** 835 **36)** 93 **37)** 99 **38)** 222

39) 666 **40)** 185

Round the following numbers to the **nearest hundred**.

41) 326 **42)** 732 **43)** 782 **44)** 150 **45)** 649 **46)** 531

47) 282 **48)** 934 **49)** 981 **50)** 3246 **51)** 7813 **52)** 7884

53) 8591 **54)** 6184 **55)** 8342 **56)** 2345 **57)** 3456 **58)** 23826

59) 72173 **60)** 94382

Round the following numbers to the **nearest thousand**.

61) 8100 **62)** 5820 **63)** 2426 **64)** 3529

65) 23820 **66)** 44400 **67)** 55500 **68)** 66770

69) 12345 **70)** 98765 **71)** 19384 **72)** 23824

73) 61800 **74)** 37342 **75)** 39684 **76)** 53412

1. Write down the answers to the following :-

a 45 × 10

b 22 × 10

c 10 × 76

d 10 × 20

e 123 × 10

f 802 × 10

g 10 × 1200

h 10 × 1030

2. Write down the answers to the following :-

a 41 × 100

b 99 × 100

c 100 × 231

d 100 × 100

e 501 × 100

f 100 × 300

g 100 × 2020

h 5000 × 100

3. Write down the answers to the following :-

a 330 ÷ 10

b 560 ÷ 10

c 700 ÷ 10

d 3000 ÷ 10

e 8000 ÷ 10

f 5500 ÷ 10

g 10 000 ÷ 10

h 140 500 ÷ 10

4. Write down the answers to the following :-

a 200 ÷ 100

b 1600 ÷ 100

c 8000 ÷ 100

d 24 000 ÷ 100

e 10 000 ÷ 100

f 20 100 ÷ 100

g 300 000 ÷ 100

h 5 000 000 ÷ 100

REMEMBER: BRACKETS *first* - MULTIPLY OR DIVIDE *next* - ADD OR SUBTRACT *last*

1. Find, showing two more steps each time :-
(the first one has been done for you)

a $(4 + 2) \times 3$

$$(4 + 2) \times 3$$
$$= 6 \times 3$$
$$= 18$$

b $5 \times (3 + 2)$

c $(12 + 5) \times 2$

d $(4 + 2) \times 13$

e $(12 - 5) \times 2$

f $(34 - 16) \times 4$

g $(26 - 13) \times 5$

h $9 \times (58 - 41)$

i $(32 + 24) \div 7$

Exercise 3

Show all your working for this exercise.

1. Copy the following and find the answers :-

(a) $468 + 222$

(b) $678 + 396$

(c) $499 - 368$

(d) $777 + 333$

(e) $904 - 717$

(f) $8008 + 1764$

(g) $2345 + 7656$

(h) $5004 - 4295$

Exercise 6

1. Copy the following and complete the calculations :-

(a) $\begin{array}{r} 27 \\ \times\ 3 \\ \hline \\ \hline \end{array}$ (b) $\begin{array}{r} 34 \\ \times\ 4 \\ \hline \\ \hline \end{array}$ (c) $\begin{array}{r} 71 \\ \times\ 6 \\ \hline \\ \hline \end{array}$ (d) $\begin{array}{r} 55 \\ \times\ 5 \\ \hline \\ \hline \end{array}$

(e) $\begin{array}{r} 132 \\ \times\ 7 \\ \hline \\ \hline \end{array}$ (f) $\begin{array}{r} 308 \\ \times\ 6 \\ \hline \\ \hline \end{array}$ (g) $\begin{array}{r} 367 \\ \times\ 4 \\ \hline \\ \hline \end{array}$ (h) $\begin{array}{r} 238 \\ \times\ 9 \\ \hline \\ \hline \end{array}$

2. Rewrite each of these in the above form and complete the calculations :-

(a) 35×6 (b) 93×5 (c) 8×43 (d) 78×7

(e) 9×406 (f) 8×333 (g) 9231×9 (h) 4×4444

3. Show all working :- (a) How many minutes are there in eight hours ?

(b) How many hours are in a week ?

(c) Find :- (i) $3 \times 72 \times 4$ (ii) $5 \times 621 \times 7$

Exercise 7

1. Copy the following and complete each calculation :-

(a) $7\overline{)63}$ (b) $5\overline{)735}$ (c) $8\overline{)440}$ (d) $9\overline{)5571}$

2. Set the following down in the same way as above and complete each calculation :-

(a) $64 \div 4$ (b) $378 \div 2$ (c) $824 \div 4$ (d) $364 \div 7$

(e) $2664 \div 6$ (f) $2875 \div 5$ (g) $\dfrac{8204}{4}$ (h) $\dfrac{7578}{9}$

3. Show all your working in solving the following :-

(a) A box can hold 8 teddy bears.

How many boxes are needed for 248 teddies ?

(b) A spoonful of medicine holds 5 millilitres.

How many spoonfuls would you need for 275 millilitres ?

Power and Roots

1. Do **not** use a calculator in this question. Copy and complete the following :-

a $4^2 = 4 \times 4 = \ldots$ **b** $7^2 = 7 \times 7 = \ldots$ **c** $10^2 = 10 \times \ldots = \ldots$

d $2^2 = \ldots \times \ldots = \ldots$ **e** $3^2 = \ldots$ **f** $1^2 = \ldots$

g $(-1)^2 = \ldots$ **h** $(-8)^2 = \ldots$ **i** $(\frac{1}{2})^2 = \ldots$

j $5^3 = 5 \times 5 \times 5 = \ldots$ **k** $(-1)^3 = \ldots$ **l** $(-2)^4 = \ldots$.

2. You **can** use a calculator this time. Find the value of :-

a 14^2 **b** 19^2 **c** 33^2 **d** 25^2

e 8^3 **f** 12^3 **g** $(-7)^3$ **h** $(\frac{1}{2})^4$.

Exercise 2 Square Roots and Cubes

1. Copy each line and complete **without** a calculator :-

a $\sqrt{16}$ **b** $\sqrt{36}$ **c** $\sqrt{100}$ **d** $\sqrt{1}$

e $\sqrt{64}$ **f** $\sqrt{4}$ **g** $\sqrt{25}$ **h** $\sqrt{400}$.

2. Write down the answer to each of the following :-

a $\sqrt{2500}$ **b** $\sqrt{10000}$ **c** $\sqrt{49000000}$ **d** $\sqrt{810000}$.

Factors/Multiples/Primes

Exercise 1 — Multiples & Lowest Common Multiples (l.c.m.)

1. **a** Write down all the multiples of **4** between **30** and **50**.

   b Write down all the multiples of **7** between **30** and **65**.

2. **a** List the first ten multiples of **3** and the first 10 multiples of **4**.

   b List the **common multiples** of 3 and 4.

   c What is the **l.c.m.** of 3 and 4 ?

3. Find the l.c.m. of each of the following pairs of numbers :-

   a 2 and 3 **b** 8 and 6 **c** 3 and 7 **d** 5 and 8

   e 10 and 12 **f** 3 and 11 **g** 8 and 9 **h** 6 and 9.

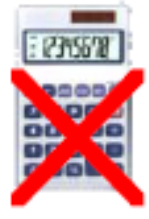
4. Find the l.c.m. of :- **a** 2, 3 and 4 **b** 3, 5 and 9 **c** 2, 7 and 9.

5. 3 disco lights are set off at the same time and then flash at different intervals :-

   - the blue light flashes every 5 seconds.
   - the green light flashes every 6 seconds.
   - the red light flashes every 8 seconds.

After they flash at the start, how long will it be until they flash together again ?

Exercise 2 — Factors & Highest Common Factor (h.c.f.)



1. Find all the factors of :- **a** 10 **b** 18 **c** 23

   d 24 **e** 72 **f** 100.

2. **a** List **all** the factors of 18 and all the factors of 24.

   b Make a list of the common factors of 18 and 24. (those that appear in both lists).

   c What is the **highest common factor** (or **h.c.f.**) of 18 and 24.

3. Find the highest common factor (h.c.f.) for each of the following :-

   a 12 and 15 **b** 28 and 35 **c** 24 and 96

   d 37 and 41 **e** 100 and 105 **f** 199 and 200.

4. Find the h.c.f. of :- **a** 12, 15, 21 **b** 24, 36, 40.

5. Write down all the factors of 360.

Exercise 3 Prime Numbers

1. **a** Write all the factors of 15. Why is 15 **not** a prime number ?

   b Explain why the number **1** is **not** a prime number.

   c Explain why 13 **is** a prime number.

2. State whether each number below is a **prime** number or not. (Write **yes** or **no**) :-

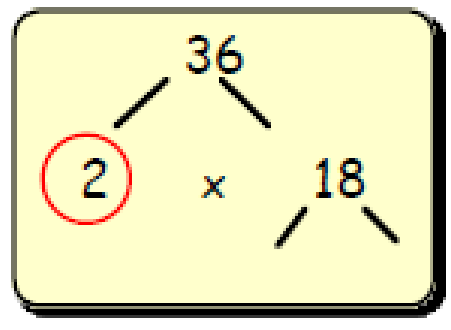
a 5	**b** 16	**c** 15	**d** 17
e 23	**f** 27	**g** 29	**h** 35
i 44	**j** 47	**k** 51	**l** 62.

3. How many **even** numbers are **prime** ?

4. Write down all the prime numbers between 50 and 60.

Exercise 4 Prime Decomposition

1. Copy and complete the prime factor tree shown.



36 = 2 x ... x ...

2. Use a similar method to find the prime decomposition of the following numbers :-

a 12	**b** 50	**c** 27	**d** 80
e 56	**f** 88	**g** 35	**h** 110
i 155	**j** 345	**k** 1000	**l** 256.

Decimals

Exercise 1

Round the following numbers correct to **1 decimal place**.

1)	8·43	**2)**	5·76	**3)**	2·39	**4)**	5·24	**5)**	3·18	**6)**	12·49
7)	11·02	**8)**	11·05	**9)**	23·81	**10)**	72·46	**11)**	93·55	**12)**	82·43
13)	7·98	**14)**	8·329	**15)**	6·483	**16)**	9·876	**17)**	12·345	**18)**	135·69

Round the following numbers correct to **2 decimal places**.

19)	5·382	**20)**	2·846	**21)**	9·305	**22)**	9·304	**23)**	7·826
24)	8·537	**25)**	6·692	**26)**	6·698	**27)**	13·492	**28)**	15·328
29)	43·135	**30)**	9·876	**31)**	12·345	**32)**	23·456	**33)**	33·333
34)	5·555	**35)**	3·8028	**36)**	472·3192				

Exercise 2 - Add

1)	1·14 + 2·30 .	**2)**	4·03 + 5·81 .	**3)**	6·14 + 2·35 .
4)	4·31 + 4·58 .	**5)**	2·25 + 3·46 .	**6)**	7·36 + 1·37 .
7)	4·72 + 2·83 .	**8)**	4·81 + 3·45 .	**9)**	6·24 + 3·88 .
10)	3·86 + 5·79 .	**11)**	7·99 + 1·77 .	**12)**	6·87 + 2·78 .
13)	7·83 + 5·92	**14)**	8·47 + 6·54	**15)**	9·86 + 6·97

Exercise 5 - Subtract

1)	27·58 − 13·27 .	**2)**	38·69 − 10·18 .	**3)**	42·22 − 1·02 .
4)	29·56 − 3·16 .	**5)**	75·59 − 23·28 .	**6)**	68·88 − 2·06 .
7)	82·73 − 0·22 .	**8)**	55·79 − 23·01 .	**9)**	82·38 − 0·11 .
10)	99·19 − 18·19 .	**11)**	75·46 − 12·12 .	**12)**	38·67 − 18·17 .
13)	38·67 − 5·06 .	**14)**	28·46 − 12·58 .	**15)**	99·88 − 7·89 .

Exercise 7 - Multiply

1)	16·3 × 6	**2)**	29·4 × 7	**3)**	38·6 × 2
4)	29·3 × 4	**5)**	51·6 × 2	**6)**	29·7 × 3
7)	23·8 × 9	**8)**	14·81 × 5	**9)**	29·31 × 3
10)	93·37 × 7	**11)**	18·81 × 5	**12)**	38·72 × 4
13)	29·9 × 6	**14)**	17·81 × 8	**15)**	14·93 × 9
16)	83·8 × 8	**17)**	56·92 × 4	**18)**	73·24 × 5
19)	9·49 × 9	**20)**	92·01 × 7	**21)**	15 × 8
22)	7·42 × 6	**23)**	28·39 × 5	**24)**	60·02 × 9

Exercise 8 - Multiply

1) $4{\cdot}2 \times 10$	**2)** $7{\cdot}3 \times 10$	**3)** $2{\cdot}8 \times 10$
4) $14{\cdot}3 \times 10$	**5)** $17{\cdot}28 \times 10$	**6)** $18{\cdot}29 \times 10$
7) $38{\cdot}35 \times 10$	**8)** $42{\cdot}02 \times 10$	**9)** $3{\cdot}1 \times 100$
10) $6{\cdot}7 \times 100$	**11)** $4{\cdot}3 \times 100$	**12)** $7{\cdot}9 \times 100$
13) $42{\cdot}81 \times 100$	**14)** $39{\cdot}91 \times 100$	**15)** $99{\cdot}81 \times 100$
16) $4{\cdot}3 \times 1000$	**17)** $6{\cdot}2 \times 1000$	**18)** $13{\cdot}3 \times 1000$
19) $19{\cdot}9 \times 1000$	**20)** $19{\cdot}91 \times 1000$	**21)** $14{\cdot}03 \times 100$
22) $39{\cdot}73 \times 1000$	**23)** $47{\cdot}83 \times 1000$	**24)** $57{\cdot}19 \times 1000$
25) $6{\cdot}7 \times 6$	**26)** $12{\cdot}5 \times 7$	**27)** $93{\cdot}4 \times 8$
28) $82{\cdot}5 \times 9$	**29)** $43{\cdot}8 \times 2$	**30)** $56{\cdot}7 \times 3$
31) $2{\cdot}47 \times 4$	**32)** $7{\cdot}38 \times 5$	**33)** $9{\cdot}42 \times 6$
34) $72{\cdot}8 \times 7$	**35)** $83{\cdot}2 \times 8$	**36)** $24{\cdot}67 \times 9$
37) $73{\cdot}24 \times 2$	**38)** $88{\cdot}56 \times 8$	**39)** $60{\cdot}02 \times 6$

Exercise 9 - Divide

1) 57 ÷ 10

2) 6·2 ÷ 10

3) 13·4 ÷ 10

4) 28·6 ÷ 10

5) 38·24 ÷ 10

6) 17·83 ÷ 10

7) 210·5 ÷ 10

8) 57·5 ÷ 100

9) 203·2 ÷ 100

10) 2432.3 ÷ 100

11) 1325.8 ÷ 100

12) 672·3 ÷ 100

13) 5325·6 ÷ 100

14) 1769·73 ÷ 100

15) 2693·64 ÷ 1000

16) 1775·6 ÷ 1000

17) 2935.67 ÷ 1000

18) 1956.21 ÷ 1000

19) 1234·5 ÷ 1000

20) 7324·6 ÷ 1000

Exercise 11 – Problem Solving

1) Two tables are placed together to form a larger one. If the first table is 67·4 cm long and the second table is 56·8 cm long, what is the total length?

2) A piece of wood is 37·4 cm long. If 12·7 cm is cut off from one end what length remains?

3) A child places 5 toy bricks of length 14·6 cm in a straight line. What is the total length?

4) A piece of ribbon 114·8 cm long is shared equally among 7 girls. What length should each girl receive?

5) Three boxes weigh 4·6 kg, 7·9 kg and 18·2 kg. What is the total weight?

6) A bottle of Coca-Cola holds 2 litres. What volume remains after a glass of 0·35 litres has been removed?

7) What length of shelf is needed to hold books with thicknesses of 6·3 cm, 7·4 cm, 1·8 cm, 2·8 cm and 4·9 cm?

8) Billy does 10 press ups in 26·8 seconds. How long does he take for each press up?

9) Six spoonfuls of medicine each holding 5·1 ml are removed from a bottle containing 50 ml. How much medicine is left in the bottle?

Integers

1. Complete the following calculations :-

a	-6 - 0	=		b	-7 - 8	=	
c	2 - (-6)	=		d	-8 - (-8)	=	
e	9 - (-6)	=		f	-2 - (-6)	=	
g	7 - (-3)	=		h	-9 - (-9)	=	
i	-6 + (- 8)	=		j	-3 - (-7)	=	
k	0 + (-2)	=		l	-3 + 6	=	
m	-4 + (-8)	=		n	3 - (-1)	=	
o	-5 - (-8)	=		p	3 - (-5)	=	
q	9 - (-2)	=		r	-4 + (-12)	=	
s	15 + (-6)	=		t	-30 - 4	=	

2. Complete the following calculations :-

a	-94 - (73)	=		b	-65 + (-41)	=	
c	-10 - (-12)	=		d	2 + (-78)	=	
e	33 - (-53)	=		f	-61 + 92	=	

1. Find :-

a	3 x (-2)	**b**	8 x (-1)	**c**	12 x (-5)	**d**	10 x (-30)
e	(-3) x 4	**f**	(-1) x 6	**g**	(-8) x 7	**h**	(-11) x 4
i	(-9) ÷ 3	**j**	(-121) ÷ 11	**k**	72 ÷ (-9)	**l**	243 ÷ (-3).

2. Find :-

a	(-4) x (-2)	**b**	(-3) x (-4)	**c**	(-7) x (-9)	**d**	(-11) x (-12)
e	15 ÷ (-5)	**f**	(-30) ÷ (-5)	**g**	(-40) ÷ (-8)	**h**	(-243) ÷ (-3).

3 Copy and complete :-

a	3 x (-2)	**b**	5 x (-4)	**c**	3 x (-7)	**d**	(-7) x 2
e	(-4) x 3	**f**	(-5) x 3	**g**	(-5) x 5	**h**	(-8) x 7
i	7 x (-5)	**j**	(-7) x 5	**k**	(-6) x 9	**l**	(-9) x 6.

4 Copy and find :-

a	(-6) ÷ 2	**b**	(-4) ÷ 2	**c**	(-35) ÷ 7	**d**	(-16) ÷ 4
e	(-40) ÷ 5	**f**	(-51) ÷ 3	**g**	(-55) ÷ 5	**h**	(-56) ÷ 7
i	(-70) ÷ 5	**j**	(-74) ÷ 2	**k**	(-108) ÷ 9	**l**	(-290) ÷ 10.

Algebra

Simplifying & Breaking Brackets

Exercise 1

Simplify the following

1) $3a + 4a + 5a$

2) $4b + 3b + 2b$

3) $5c + 2c + c$

4) $d + 3d + 7d$

5) $6e + 3e - 7e$

6) $3f + 8f + (-9f)$

7) $4x + 5x - 7x$

8) $8y - 3y - y$

9) $7z + 8z - 9z - 5z$

10) $3x - x + 4x - x$

11) $7y + y - 5y - y$

12) $z + 6z + 2z - 9z$

13) $2a + 4b + 5a + 2b$

14) $6x + 3y + 3x + 4y$

15) $8m + 6n - 2m + 3n$

16) $8a + 3b + a - b$

17) $5x + 4y - 2x - y$

18) $6p + q - 5p + 2q$

19) $7y + 2z - 6y + z$

20) $s + 7t + 4s - 3t$

Remove the brackets and simplify as far as possible.

1) $2(3x + 4)$

2) $4(2x + 3)$

3) $5(4x - 3)$

4) $4(5 + y)$

5) $2(5 + 3y)$

6) $4(2 - y)$

7) $6(2m + n)$

8) $2(p - 4q)$

9) $3(b - 5a)$

10) $2(y + 2z)$

11) $2(3r - 2s)$

12) $3(2p - 3q)$

13) $3(7s + u)$

14) $4(2a - 3b)$

15) $2(6n - 15m)$

16) $2(t - 2s)$

17) $5(y - x)$

18) $3(5f - 2e)$

19) $6(m + 2n)$

20) $8(3m + 5k)$

21) $5(a + 7b)$

22) $3(q - 4p)$

23) $4(2b - 5c)$

24) $2(4z - 10y)$

Exercise 1

Find the value of the following expressions when **x = 4, y = 2 and z = 3**.

1) 2x + y **2)** 3y + 2z **3)** 5x + z

4) x + 3z **5)** x + y + z **6)** x + 3y + 2z

7) 5x – 3y **8)** 6y – 2z **9)** 3x – 6y

10) 6x – 8z **11)** x + y – z **12)** x + 3y – 2z

13) 2x + 5y – 4z **14)** 3x – y – z **15)** 4y + z – 2x

16) y + z – x **17)** 4x + y –6z **18)** 5z – 5y – x

19) z – y + x **20)** 8z – 4y – 2x **21)** 2x + 3y – 4z

Exercise 2

Find the value when **a = 3 , b = 2 and c = 5**.

1) 2ac **2)** 3bc **3)** 4ab

4) abc **5)** 3abc **6)** 3ab + 2bc

7) 4bc + 2ab **8)** 2ab – bc **9)** 4ac – 2bc

10) 3ab + ac **11)** 4a + bc **12)** 5b – 3a

13) 5a – 3c **14)** 3ab + 4bc **15)** 6bc – 3ab

16) 3ac + b **17)** a + 5ac **18)** abc – 6b