

Directed Numbers – Positive & Negative Numbers

PRACTICE QUESTIONS & WORKED SOLUTIONS

QUESTIONS

Write down the opposite of each of the following numbers:

1. -5

2. 13

3. -49

4. 2560

5. 3.87

6. $3\frac{1}{4}$

7. 0

Addition:

1. $-5 + 3$

2. $6 + 4$

3. $-5 + (-7)$

4. $-4 + (-2)$

5. $5 + (-2)$

6. $4 + (-8)$

7. $-5 + 5$

8. $-3 + 4 + (-2)$

Subtraction:

1. $3 - 2$

2. $-3 - 2$

3. $3 - -2$

4. $-3 - -2$

5. $4 - 6$

6. $-4 - 6$

7. $4 - -6$

8. $-4 - -6$

Multiplication:

1. 3×5

2. -3×5

3. 4×-3

4. -5×-2

Division:

1. $12 \div 2$

2. $-8 \div 4$

3. $10 \div -5$

4. $-15 \div -3$

Raising a negative number to a power:

1. $(-5)^3$

2. $(-4)^2$

3. $(-1)^5$

4. $2^3 - 3^2$

NOTE:

If you need help with any of the Maths covered in this resource (or any other Maths topics), you can make an appointment with Learning Development through reception: phone (02) 4221 3977, or Level 2 (top floor), Building 11, or through your campus.



WORKED SOLUTIONS

Writing the opposites:

1. 5
2. -13
3. 49
4. -2560
5. -3.87
6. $-3\frac{1}{4}$
7. 0 (the only number that is its own opposite)

Addition:

1. -2 (you deposit 3 but your debt has not been cleared hence a negative balance)
2. 10 (straightforward)
3. -12 (you are going further into debt)
4. -6 (you are going further into debt)
5. 3 (you are withdrawing 2 from a balance of 5)
6. -4 (you are withdrawing 8 from a balance of only 4)
7. 0 (you are clearing your debt)
8. $-3 + 4$ gives 1, then $1 + (-2)$ gives -1

Subtraction:

1. 1 (straightforward)
2. -5 (you are going further into debt)
3. 5 (two negatives cancel out)
4. -1 (we would get $-3 + 2$)
5. -2 (you are going into debt again)
6. -10 (you are going further into debt!)
7. 10 (the withdrawal has been cancelled, you are better off by 6)
8. 2 (the withdrawal has been cancelled, you are better off by 6)

Multiplication:

1. 15 (straightforward)
2. -15 (5 withdrawals of \$3 each)
3. -12 (4 withdrawals of \$3 each)
4. 10 (5 cancellations of \$2 withdrawals or vice versa)

Division:

1. 6 (straightforward)
2. -2 (does not make sense without thinking about cancellations)
3. -2 (does not make sense without thinking about cancellations)
4. 5 (how many withdrawals of \$3 made a debt of \$15?)

Raising a negative number to a power:

1. -125
2. 16
3. -1
4. $8 - 9 = -1$

