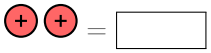
INTEGERS

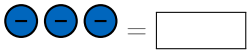
A DEFINITION

A.1 COUNTING POSITIVE AND NEGATIVE NUMBERS

Ex 1:

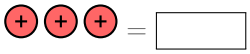


Ex 2:

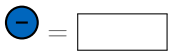


Ex 3:

Ex 4:



Ex 5:



A.2 WRITING INTEGERS FROM WORDS

Ex 6: Positive two is $\square$.

Ex 7: Negative three is $\square$.

Ex 8: Negative four is $\square$.

Ex 9: Positive five is $\square$.

Ex 10: Negative two is $\square$.

A.3 FINDING THE OPPOSITE

Ex 11: The opposite of -4 is $\square$.

Ex 12: The opposite of -3 is $\square$.

Ex 13: The opposite of $+5$ is $\square$.

Ex 14: The opposite of $+1$ is $\square$.

Ex 15: The opposite of 0 is $\square$.

A.4 FINDING THE OPPOSITE FOR DECIMAL NUMBERS

Ex 16: The opposite of -4.1 is $\square$.

Ex 17: The opposite of -0.5 is $\square$.

Ex 18: The opposite of $+3.5$ is $\square$.

Ex 19: The opposite of $+99.5$ is $\square$.

A.5 ADDING SMALL INTEGERS

Ex 20: $(+1) + (-2) = \square$

Ex 21: $(+3) + (-1) = \square$

Ex 22: $(+2) + (-3) = \square$

Ex 23: $(-2) + (-1) = \square$

Ex 24: $(-1) + (+3) = \square$

Ex 25: $(+2) + (+3) = \square$

A.6 FINDING MISSING NUMBERS IN ADDITION

Ex 26: $(+3) + (\square) = +1$

Ex 27: $(-4) + (\square) = -2$

Ex 28: $(\square) + (+2) = -1$

Ex 29: $(-2) + (\square) = -5$

Ex 30: $(\square) + (+1) = +3$

Ex 31: $(+2) + (\square) = -3$

A.7 FINDING THE ABSOLUTE VALUE

Ex 32: The absolute value of $+2$ is $\square$.

Ex 33: The absolute value of -3 is $\square$.

Ex 34: The absolute value of $+5$ is $\square$.

Ex 35: The absolute value of -4 is $\square$.

Ex 36: The absolute value of -9 is $\square$.

A.8 FINDING THE ABSOLUTE VALUE FOR DECIMAL NUMBERS

Ex 37: The absolute value of -2.1 is $\square$.

Ex 38: The absolute value of -5.4 is $\square$.

Ex 39: The absolute value of 3.7 is $\square$.

Ex 40: The absolute value of 0 is $\square$.

B RULES OF ADDITION

B.1 ADDING INTEGERS

Ex 41: $(+6) + (-4) = \square$

Ex 42: $(+4) + (+7) = \square$

Ex 43: $(-5) + (+8) = \square$

Ex 44: $(+6) + (-4) = \square$

Ex 45: $(-5) + (-4) = \square$

B.2 ADDING INTEGERS WITHOUT EXPLICIT SIGNS

Ex 46: $6 + (-4) =$ ☐

Ex 47: $-5 + 8 =$ ☐

Ex 48: $-2 + (-3) =$ ☐

Ex 49: $-6 + 0 =$ ☐

B.3 ADDING SIGNED DECIMAL NUMBERS

Ex 50: $-5 + 8.1 =$ ☐

Ex 51: $-3 + (-2.5) =$ ☐

Ex 52: $-1.6 + (+2.6) =$ ☐

Ex 53: $-3.5 + (+1.5) =$ ☐

B.4 ADDING MULTIPLE INTEGERS

Ex 54: Calculate:

$$(+3) + (-7) + (-5) =$$ ☐

Ex 55: Calculate:

$$(-2) + (-4) + (+7) =$$ ☐

Ex 56: Calculate:

$$(-2) + (+4) + (-2) =$$ ☐

Ex 57: Calculate:

$$(-10) + (+3) + (-7) =$$ ☐

B.5 ADDING INTEGERS IN REAL-WORLD PROBLEMS

Ex 58: During a hike, the hiker experiences altitude changes as follows. Positive numbers indicate climbing (gaining altitude), while negative numbers indicate descending (losing altitude):

- The hiker starts at an altitude of +300 meters.
- They climb +150 meters in the morning.
- In the afternoon, they descend by −200 meters.

What is the hiker's final altitude at the end of the day?

☐ meters

Ex 59: A person keeps track of their bank account balance as follows. Positive numbers indicate deposits (money added), while negative numbers indicate withdrawals (money taken out):

- The person starts with +50 dollars in their account.
- They deposit +30 dollars.
- Later, they withdraw −40 dollars.

What is the person's final balance?

☐ dollars

Ex 60: In a round of golf, each hole has a "par" score, and a player's score is based on how many strokes they take compared to par. A score of 0 means the player made par, a positive number means they took extra strokes (over par), and a negative number means they made fewer strokes (under par).

- Hole 1: Par 3, player scored −1 (under par)
- Hole 2: Par 4, player scored +2 (over par)
- Hole 3: Par 5, player scored 0 (made par)
- Hole 4: Par 3, player scored +1 (over par)
- Hole 5: Par 4, player scored −2 (under par)

What is the player's total score?

☐

Ex 61: Throughout the day, the temperature in a city changes as follows. Positive numbers indicate a rise in temperature, while negative numbers indicate a drop in temperature:

- In the morning, the temperature started at +5°C and dropped by −3°C.
- In the afternoon, the temperature rose by +4°C.
- In the evening, the temperature dropped again by −6°C.
- At night, it dropped further by −1°C.

What is the temperature at the end of the day?

☐ $°C$

C SUBTRACTION

C.1 CONVERTING SUBTRACTION TO ADDITION

Ex 62: Convert the subtracting in addition:

$$(+4) - (+2) = (\square) + (\square)$$

Ex 63: Convert the subtraction into addition:

$$(-5) - (-3) = (\square) + (\square)$$

Ex 64: Convert the subtraction into addition:

$$(+4) - (-2) = (\square) + (\square)$$

Ex 65: Convert the subtraction into addition:

$$(-1) - (+2) = (\square) + (\square)$$

C.2 SUBTRACTING INTEGERS STEP BY STEP

Ex 66: Calculate:

$$(+4) - (+2) = (\square) + (\square)$$
$$= \square$$

Ex 67: Calculate:

$$(-2) - (-3) = (\square) + (\square)$$
$$= \square$$

Ex 68: Calculate:

$$(-4) - (+2) = (\square) + (\square)$$
$$= \square$$

Ex 69: Calculate:

$$(+3) - (-2) = (\square) + (\square)$$
$$= \square$$

C.3 SUBTRACTING INTEGERS

Ex 70: Calculate:

$$(+4) - (+2) = \square$$

Ex 71: Calculate:

$$(-2) - (-4) = \square$$

Ex 72: Calculate:

$$(+2) - (-3) = \square$$

Ex 73: Calculate:

$$(-3) - (+4) = \square$$

C.4 SUBTRACTING INTEGERS WITHOUT EXPLICIT SIGNS

Ex 74: Calculate:

$$3 - (-2) = \square$$

Ex 75: Calculate:

$$(-2) - 3 = \square$$

Ex 76: Calculate:

$$(-3) - (-5) = \square$$

Ex 77: Calculate:

$$3 - 5 = \square$$

C.5 ADDING/SUBTRACTING MULTIPLE INTEGERS

Ex 78: Calculate:

$$(+3) - (-7) - (+5) = \square$$

Ex 79: Calculate:

$$(-2) - (-3) + (-2) = \square$$

Ex 80: Calculate:

$$(-5) - (-4) + (-3) = \square$$

Ex 81: Calculate:

$$(+6) - (-3) + (-4) = \square$$

C.6 SUBTRACTING INTEGERS IN REAL-WORLD PROBLEMS

Ex 82: In the morning, the temperature was $-7°C$, and by the evening, the temperature was $-2°C$.
Find the variation of temperature.

$\square$ °C

Ex 83: In the morning, your bank account balance was -50 dollars, and by the evening, it was $+30$ dollars.
Find the change in your bank account balance.

$\square$ dollars

Ex 84: A lift starts at the 5th floor and descends to the -2nd floor (below ground level).
Find the change in the lift's position.

$\square$ floors

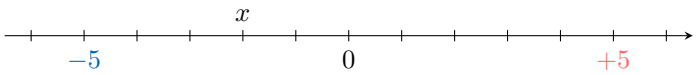
Ex 85: he GDP (Gross Domestic Product) growth rate of a country was -2% in 2024. It was $+3\%$ in 2025.
Find the variation in the GDP growth rate.

$\square$ %

D ON THE NUMBER LINE

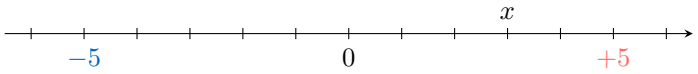
D.1 FINDING X ON THE NUMBER LINE

Ex 86: Find the value of x.



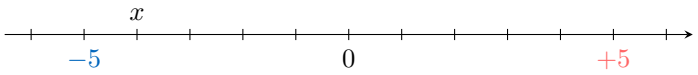
$x = \square$

Ex 87: Find the value of x.



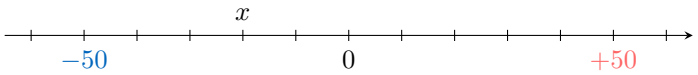
$x = \square$

Ex 88: Find the value of x.



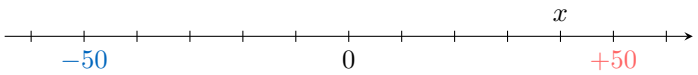
$x = \square$

Ex 89: Find the value of x.



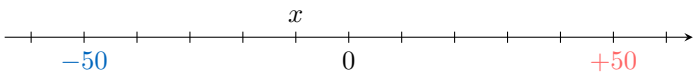
$x = \square$

Ex 90: Find the value of x.



$x = \square$

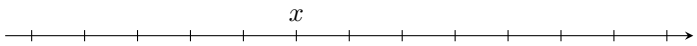
Ex 91: Find the value of x.



$x = \square$

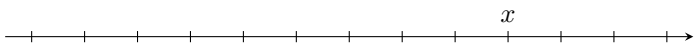
D.2 FINDING DECIMAL NUMBERS ON THE NUMBER LINE

Ex 92: Find the value of x.



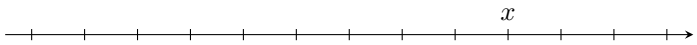
$x =$ ☐

Ex 93: Find the value of x.



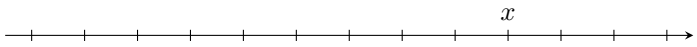
$x =$ ☐

Ex 94: Find the value of x.



$x =$ ☐

Ex 95: Find the value of x.



$x =$ ☐

E ORDERING

E.1 COMPARING SMALL INTEGERS

Ex 96: Compare: -1 ☐ $+5$ (☐ $<$, ☐ $>$, ☐ $=$)

Ex 97: Compare the numbers: -4 ☐ $+3$ (☐ $<$, ☐ $>$, ☐ $=$)

Ex 98: Compare the numbers: -2 ☐ -5 (☐ $<$, ☐ $>$, ☐ $=$)

Ex 99: Compare the numbers: $+6$ ☐ $+1$ (☐ $<$, ☐ $>$, ☐ $=$)

Ex 100: Compare the numbers: $+2$ ☐ $+5$ (☐ $<$, ☐ $>$, ☐ $=$)

Ex 101: Compare the numbers: -6 ☐ -1 (☐ $<$, ☐ $>$, ☐ $=$)

Ex 102: Compare the numbers: -1 ☐ $+5$ (☐ $<$, ☐ $>$, ☐ $=$)

E.2 COMPARING INTEGERS

Ex 103: Compare the numbers: -20 ☐ 1 (☐ $<$, ☐ $>$, ☐ $=$)

Ex 104: Compare the numbers: -99 ☐ -100 (☐ $<$, ☐ $>$, ☐ $=$)

Ex 105: Compare the numbers: 234 ☐ -1200 (☐ $<$, ☐ $>$, ☐ $=$)

Ex 106: Compare the numbers: -18 ☐ -3 (☐ $<$, ☐ $>$, ☐ $=$)

Ex 107: Compare the numbers: 230 ☐ 200 (☐ $<$, ☐ $>$, ☐ $=$)

Ex 108: Compare the numbers: 99 ☐ -100 (☐ $<$, ☐ $>$, ☐ $=$)

E.3 COMPARING INTEGERS IN REAL-WORLD PROBLEMS

MCQ 109: During a golf tournament, the scores relative to par for five different holes were:

$$-2, -1, 0, +1, -3$$

Order these scores from the best performance (most under par) to the worst performance (above par).

Choose one answer:

- ☐ $0 < +1 < -1 < -2 < -3$
- ☐ $-3 < -2 < -1 < 0 < +1$
- ☐ $+1 > 0 > -1 > -2 > -3$
- ☐ $-1 < -2 < -3 < 0 < +1$

MCQ 110: Given the depths of various lakes below sea level:

Lake	Depth below sea level
Lake Assal, Djibouti	-155 m
Death Valley, USA	-86 m
Caspian Sea, Central Asia	-28 m
Sea of Galilee, Israel	-214 m

Which lake is the deepest below sea level?

Choose one answer:

- ☐ Lake Assal, Djibouti
- ☐ Death Valley, USA
- ☐ Caspian Sea, Central Asia
- ☐ Sea of Galilee, Israel

MCQ 111: The recorded temperatures in a particular week were:

$$-2.5°C, 1.2°C, -0.8°C, 0.5°C, -3.2°C$$

Order these temperatures from coldest to warmest.

Choose one answer:

☐ $1.2°C < 0.5°C < -0.8°C < -2.5°C$

☐ $-3.2°C < -2.5°C < -0.8°C < 0.5°C < 1.2°C$

☐ $1.2°C > 0.5°C > -0.8°C > -3.2°C$

☐ $-0.8°C < -2.5°C < -3.2°C < 0.5°C < 1.2°C$

MCQ 112: Given the years of significant events in Ancient Roman history:

Event	Year
Founding of Rome	-753
End of the Roman Republic	-27
Sacking of Rome by the Gauls	-390
Julius Caesar's assassination	-44

Which event happened the earliest?

Choose one answer:

☐ Founding of Rome

☐ End of the Roman Republic

☐ Sacking of Rome by the Gauls

☐ Julius Caesar's assassination

F MULTIPLICATION

F.1 MULTIPLYING SMALL INTEGERS

Ex 113: Calculate:

$$(-2) \times (-7) = \square$$

Ex 114: Calculate:

$$(-4) \times (+6) = \square$$

Ex 115: Calculate:

$$(+5) \times (-3) = \square$$

Ex 116: Calculate:

$$(-6) \times (-2) = \square$$

Ex 117: Calculate:

$$(+3) \times (+5) = \square$$

Ex 118: Calculate:

$$(-1) \times (-1) = \square$$

F.2 MULTIPLYING INTEGERS WITHOUT EXPLICIT SIGNS

Ex 119: Calculate:

$$3 \times (-2) = \square$$

Ex 120: Calculate:

$$(-3) \times 8 = \square$$

Ex 121: Calculate:

$$(-5) \times (-8) = \square$$

Ex 122: Calculate:

$$(-6) \times 9 = \square$$

F.3 CALCULATING POWERS OF NEGATIVE NUMBERS

Ex 123: Calculate:

$$(-2)^2 = \square$$

Ex 124: Calculate:

$$(-4)^2 = \square$$

Ex 125: Calculate:

$$(-1)^3 = \square$$

Ex 126: Calculate:

$$(-2)^3 = \square$$

F.4 MULTIPLYING INTEGERS IN REAL-WORLD PROBLEMS

Ex 127: At midnight, the temperature was 0 degrees.
The temperature continued to change by -3 degrees every hour.
What was the temperature 4 hours later?

$\square\,°C$

Ex 128: A diver starts at sea level (0 meters).
The diver descends 5 meters every minute.
How deep is the diver after 6 minutes?

$\square$ meters

Ex 129: A hiker is at an altitude of 150 meters.
The hiker descends by 10 meters every minute.
What is the hiker's altitude after 7 minutes?

$\square$ meters

Ex 130: Your bank account has a balance of 90 euros.
You make a withdrawal of 40 euros every day for 5 days.
What is your account balance after 5 days?

$\square$ euros

G DIVISION

G.1 DIVIDING SMALL INTEGERS

Ex 131: Calculate:

$$(+8) \div (-2) = \square$$

Ex 132: Calculate:

$$(-12) \div (-3) = \square$$

Ex 133: Calculate:

$$(-15) \div (+5) = \square$$

Ex 134: Calculate:

$$(+20) \div (+4) = \square$$

G.2 DIVIDING INTEGERS WITHOUT EXPLICIT SIGNS

Ex 135: Calculate:

$$8 \div (-2) = \square$$

Ex 136: Calculate:

$$-12 \div (-3) = \square$$

Ex 137: Calculate:

$$-18 \div 6 = \square$$

Ex 138: Calculate:

$$24 \div 4 = \square$$