	Islamic Educational College First Semester of 2025/2026 **Study Sheet** **Grade Six**	مدارس الكلية العلمية الاسلامية جبل عمان/الجبيهة

⭐ STUDY SHEET: Number Theory, Fractions & Integers Revision

1 Factors

Explanation

- A factor is a number that divides another number exactly.
- Example: Factors of 20 → 1, 2, 4, 5, 10, 20
- A factor pair is two numbers multiplied to get the original number.
  Example: 4 × 5 = 20 → (4, 5) is a factor pair.

Practice Questions

1. Show all factors of 18.
   a) 1, 2, 9, 18 b) 1, 2, 3, 6, 9, 18 c) 1, 3, 6, 18 d) 1, 2, 3, 9

2. Which pair is a **factor pair** of 45?
   a) (3, 12) b) (5, 9) c) (6, 8) d) (2, 20)

2 Multiples

Explanation

A multiple is the result of multiplying a number by whole numbers.
Example: Multiples of 6 → 6, 12, 18, 24, 30, …

Practice Questions

3. Which number is multiple of 9?
   a) 14 b) 18 c) 25 d) 23

4. Which number is NOT a multiple of 4?
   a) 16 b) 24 c) 20 d) 22

3 Prime & Composite Numbers

Explanation

- **Prime number** → Has exactly **2** factors: 1 and itself. Example: 2, 3, 5, 7, 11
- **Composite number** → Has **more than 2** factors. Example: 4, 6, 8, 9

Practice Questions

5. Which number is **prime**?

a) 21 b) 39 c) 41 d) 49

6. Which number is **composite**?

a) 13 b) 19 c) 22 d) 29

4 Opposites & Integers on the Number Line

Explanation

- The **opposite** of a number is the same distance from 0 but on the other side. Opposite of –8 is **+8**.
- Moving to the **right** increases value; moving to the **left** decreases value.

Practice Questions

7. What is the opposite of **+9**?

a) 9 b) -9 c) 0 d) +1

8. Which integer is halfway between **–10** and 2?

a) -6 b) -4 c) -3 d) -2

9. Which integer is **3 units to the left** of 5?

a) 8 b) 2 c) -3 d) 1

5 Improper Fractions & Mixed Numbers

Explanation

- **Improper fraction** → numerator > denominator (e.g., 17/5).
- To convert:
  Divide → Quotient = whole number, Remainder = numerator of fraction.

Example:

17 ÷ 5 = 3 remainder 2 → $\mathbf{3\frac{2}{5}}$

Practice Questions

10. Convert $\frac{13}{4}$ to a mixed number:

a) $3\frac{1}{4}$ b) $3\frac{3}{4}$ c) $4\frac{1}{4}$ d) $2\frac{3}{4}$

11. Which improper fraction equals $2\frac{2}{3}$?

a) $\frac{5}{3}$ b) $\frac{6}{3}$ c) $\frac{7}{3}$ d) $\frac{8}{3}$

6 Order of Operations

Explanation

1. Parentheses
2. Multiply / Divide (left to right)
3. Add / Subtract (left to right)

Practice Questions

11. What is the value of **(3 + 7) × 2**?

a) 14 b) 20 c) 18 d) 10

12. What is the value of **12 ÷ 3 + 8**?

a) 12 b) 10 c) 4 d) 16

7 Integer Comparison

Explanation

- Negative numbers: the number closer to 0 is **greater**.
  Example: –3 > –7
- Zero is greater than all negative numbers.

Practice Question

Compare each pair of integers using < , > or =

a) –11 ☐ –3 b) 0 ☐ -8 c) –4 ☐ 2 d) -3 ☐ 3

8 Factor Trees

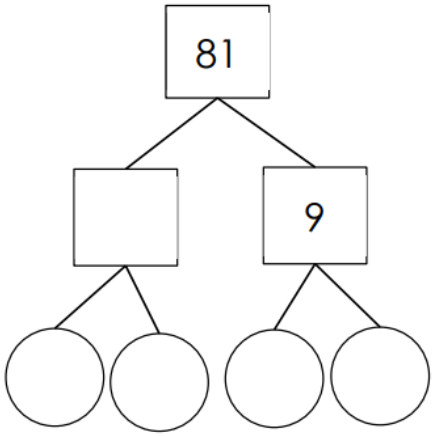
Explanation

17. Break a number into prime factors.
    Example:
    24
    ↓
    6 × 4
    ↓
    (2 × 3) and (2 × 2)

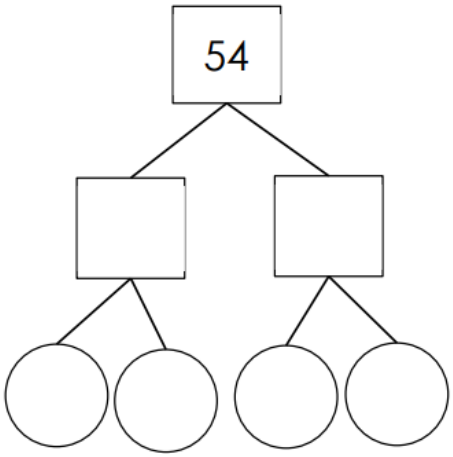
Practice Questions

Fill in the missing numbers in each factor tree.

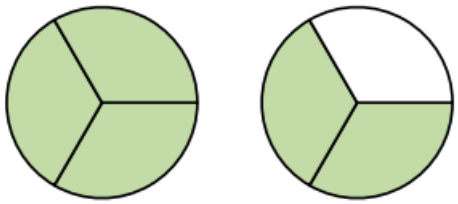
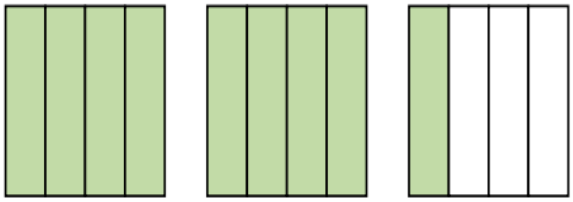
a)



b)



Use the model to write the improper fraction and its mixed number.

The Model	*Improper fraction*	*Mixed number*
	_____	_____
	_____	_____

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