

IBEW Aptitude Test — Practice Questions

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Simulate test conditions: Math/Sequences — 90 seconds per question max. Reading — 50 seconds per question.

Math & Algebra

Q1.

$$1/2 + 1/4 = ?$$

- A) 1/6
- B) 2/6
- C) 3/4
- D) 2/4

Q2.

3/4 as a decimal?

- A) 0.34
- B) 0.43
- C) 0.75
- D) 0.25

Q3.

$$5/8 - 1/4 = ?$$

- A) 4/4
- B) 3/8
- C) 1/2
- D) 4/8

Q4.

0.6 as a simplified fraction?

- A) 6/100
- B) 3/5
- C) 6/10
- D) 2/3

Q5.

$$1.25 + 0.75 = ?$$

- A) 1.75
- B) 1.95
- C) 2.0
- D) 2.25

Q6.

$$2/3 \times 3/4 = ?$$

- A) $6/12$
- B) $1/2$
- C) $5/7$
- D) $2/7$

Q7.

4 workers finish in 6 days. 8 workers take how many days?

- A) 2
- B) 3
- C) 4
- D) 12

Number Sequences

Q8.

Next: 2, 4, 6, 8, ____

- A) 9
- B) 10
- C) 11
- D) 12

Q9.

Next: 5, 10, 15, 20, ____

- A) 22
- B) 24
- C) 25
- D) 30

Q10.

Missing: 3, 6, ____, 12, 15

- A) 7
- B) 8
- C) 9
- D) 10

Q11.

Next: 1, 4, 9, 16, ____

- A) 20
- B) 25
- C) 22
- D) 36

Q12.

Next: 100, 90, 80, ____

- A) 60
- B) 65
- C) 70
- D) 75

Mechanical Reasoning

Q13.

Three gears A, B, and C are connected in a chain. A is the largest and the driver. Which gear turns the fastest?

- A) Gear A (large)
- B) Gear B (medium)
- C) Gear C (small)
- D) All turn at the same speed

Q14.

Gear A turns clockwise and drives Gear B, which drives Gear C. What direction does Gear C turn?

- A) Clockwise
- B) Counter-clockwise
- C) Does not turn
- D) Alternates direction

Q15.

Gear A has 60 teeth and spins at 120 RPM. It drives Gear B which has 30 teeth. How fast does B spin?

- A) 60 RPM
- B) 120 RPM
- C) 240 RPM
- D) 180 RPM

Q16.

Pulley A turns counter-clockwise and drives Pulley B via an open belt. Which direction does B turn?

- A) Clockwise
- B) Counter-clockwise
- C) Does not turn
- D) Depends on pulley size

Q17.

Pulley A turns counter-clockwise and drives Pulley B via a crossed belt. Which direction does B turn?

- A) Counter-clockwise
- B) Clockwise
- C) Does not turn
- D) Same as open belt

Reading Comprehension

Q18.

What is the primary purpose of workplace safety inspections as described in the passage?

- A) To identify hazards and ensure safety compliance
- B) To train employees on safety procedures
- C) To reduce company insurance costs
- D) To satisfy government reporting requirements

Q19.

According to the passage, what is the first step in the inspection process?

- A) Conducting a facility walkthrough
- B) Reviewing safety documentation
- C) Using standardized checklists
- D) Examining emergency systems

Q20.

Which factors determine the frequency of safety inspections?

- A) Equipment age and employee count
- B) Workplace risk level, regulatory requirements, and historical safety performance
- C) Budget constraints and management preferences
- D) Season and weather conditions

Answer Key

Q	Answer	Explanation
Q1	C	$2/4 + 1/4 = 3/4$.
Q2	C	$3/4 = 0.75$.
Q3	B	$5/8 - 2/8 = 3/8$.
Q4	B	$6/10 = 3/5$.
Q5	C	2.00.
Q6	B	$6/12 = 1/2$.
Q7	B	Inverse proportion: 3 days.
Q8	B	Add 2 each time: 10.
Q9	C	Add 5: 25.
Q10	C	Add 3: 9.
Q11	B	Perfect squares: $5^2 = 25$.
Q12	C	Subtract 10: 70.
Q13	C	The smallest gear in a chain always turns the fastest. Speed is inversely proportional to size — smaller circumference means more rotations to keep up with the chain.
Q14	A	Each meshing gear reverses direction. A (CW) → B (CCW) → C (CW). Two reversals = back to original direction. C turns clockwise, same as A.
Q15	C	$B \text{ speed} = A \text{ speed} \cdot \left(\frac{A \text{ teeth}}{B \text{ teeth}} \right) = 120 \cdot \left(\frac{60}{30} \right) = 240 \text{ RPM}$. Smaller gear always spins faster.
Q16	B	An open belt transfers motion in the same direction. A turns CCW, so B also turns CCW. A crossed belt would reverse the direction.
Q17	B	A crossed belt reverses the direction of rotation. A turns CCW, so B turns CW. An open belt would make B turn the same direction as A.
Q18	A	
Q19	B	
Q20	B	