IEP Central

FTCE General Knowledge Test (GKT) Math Study Guide

Test Format:

- **40 multiple-choice questions**
- **83-minute time limit**
- **Calculator allowed (on-screen or handheld, if approved)**

Domains Covered on the FTCE GKT Math Test

1. Number Sense, Operations, & Algebraic Thinking (35%)

- **Topics:**
  - Fractions, decimals, percentages
  - Ratios and proportions
  - Basic algebra (solving equations, inequalities)
  - Exponents and radicals
- **Sample Question:**

  If $\frac{2}{3}$ of a number is 24, what is $\frac{5}{6}$ of the same number?
  - (A) 20
  - (B) 30
  - (C) 40
  - (D) 60

  ✅ **Answer: (B) 30** *(Solution: x = 36, so $\frac{5}{6} \times 36 = 30$)*

2. Geometry & Measurement (30%)

- **Topics:**
  - Area, perimeter, volume
  - Pythagorean theorem
  - Coordinate geometry (slope, distance)
  - Properties of shapes (triangles, circles, quadrilaterals)
- **Sample Question:**

  A rectangle has a length of 10 cm and a diagonal of 26 cm. What is its width?
  - (A) 12 cm
  - (B) 24 cm
  - (C) 20 cm
  - (D) 16 cm

  ✅ **Answer: (B) 24 cm** *(Solution: Use $a^2+b^2+=c^2$)*

3. Data Analysis, Statistics, & Probability (20%)

- **Topics:**
  - Mean, median, mode, range
  - Probability (basic calculations)Type equation here.
  - Interpreting graphs (bar, line, pie charts)
- **Sample Question:**

  A class has test scores of 70, 80, 85, 90, and 95. What is the median score?
  - (A) 80

- (B) 85
- (C) 87.5
- (D) 90

✅ **Answer: (B) 85** *(Solution: Middle value of ordered data set)*

4. Linear Equations & Functions (15%)

- **Topics:**
  - Slope-intercept form (y=mx+by=*mx*+*b*)
  - Solving systems of equations
  - Word problems involving linear relationships
- **Sample Question:**
  What is the slope of the line 3x−2y=63x−2y=6?
  - (A) $\frac{3}{2}$
  - (B) $-\frac{3}{2}$
  - (C) $\frac{2}{3}$
  - (D) $-\frac{2}{3}$

  ✅ **Answer: (A)** $\mathbf{\frac{3}{2}}$ *(Solution: Rewrite as y =* $\frac{3}{2}$ *x – 3: slope intercept form)*

Quick Study Tips

1. **Memorize Key Formulas:**
   - Area of circle = $A = \pi r^2$
   - Slope = $\frac{rise}{run}$
   - Probability = $\frac{Favorable\ outcomes}{Total\ outcomes}$
2. **Practice Word Problems:** The test emphasizes real-world applications.
3. **Use the On-Screen Calculator Wisely:** Avoid over-reliance; some problems are faster mentally.