

**GENERAL ESTIMATING KNOWLEDGE (GEK)
SAMPLE TEST**

1. T F Working capital required for a business is never proportional to sales volume.
2. T F The “accrual basis of accounting” is a system of record keeping which recognizes income and expenses as they are incurred and as they relate to specific periods of time.
3. T F The income and expense statement shows the results of operations for a given period; the balance sheet shows the financial condition at a given time.
4. T F Assets plus liabilities equals net worth.
5. T F When a project is completed and the cost of the project is close to the cost given in the estimate the estimator may assume that all phases of the project went well.
6. T F Where the owner acts as his own contractor, the subcontractors are considered to be original contractors for purposes of the lien laws.
7. As the volume of sales decreases, the need for working capital usually:
 - A. Decreases
 - B. Increases
 - C. Remains the same
 - D. Doubles
8. A contractor is bidding a job for which he has estimated his total direct cost (field cost) to be \$15,500. He knows his overhead percentage is 21% of direct cost (based on current expense statements and experience) and he wants to make a net profit of 8% of total cost on this project. What must the bid for this project be (to nearest \$10)?
 - A. \$19,990
 - B. \$20,260
 - C. \$20,550
9. Give the formula for converting cubic feet to cubic yards.
 - A. CF/9
 - B. SF/9
 - C. CF/27
 - D. CF x 27
10. Calculate the number of gallons required to apply a 10-mil thick liquid coating to 937 square feet of nonporous material. Assume one gallon will cover 400 square feet, 2 mil thick. Round to the nearest gallon. _____

11. Calculate to the nearest thousandths of an hour (0.000) required for the installation of an item if the installation time is 16 minutes. _____
12. Calculate the cost per square foot (to the nearest cent) of material applied 1.5" thick if the material weighs 68 lbs. per cubic foot and cost \$283.00 per ton. _____
13. Calculate the lineal foot cost (to the nearest cent) of material that has a weight of 1.502 lbs. per lineal foot, using a waste factor of 15%, and cost of \$512.50 per ton.

The following five questions are based on the following contract information:

"FBNFIRM" was awarded a subcontract by "SIU Contracting" in the amount of \$175,000.00. This amount is broken down into three different buildings on the same site. The percentage for each building is as follows:

Building No.	Percentage
1	35%
2	40%
3	25%

Retention is held by "SIU Contracting" based on the following schedule:

- * work in place - 10% retention
- * stored material - 20% retention
- * after the project is 75% complete for "FBNFIRM", retention is reduced to a total of 5% for work in place.

Note: The answers you calculate in this portion of the exam may be required in the solution of other questions in this portion of the exam.

14. "FBN" has a labor/material ratio of 45/55. Based on this information the material costs for Buildings 1, 2, and 3 are:
 - A. Building #1 material costs are \$61,250.00
Building #2 material costs are \$70,000.00
Building #3 material costs are \$43,750.00
 - B. Building #1 material costs are \$33,687.50
Building #2 material costs are \$38,500.00
Building #3 material costs are \$24,062.50
 - C. Building #1 material costs are \$27,562.50
Building #2 material costs are \$31,500.00
Building #3 material costs are \$19,687.50
 - D. None of the above.

15. During the first month "FBN" had all of the material on site and properly stored for Building #1. How much retention was held by "SIU" for this month?
- \$5,512.50
 - \$3,367.85
 - \$6,737.50
 - \$12,250.00
16. During the second month no work was done by "FBN". However, a change order was issued to "FBN" in the amount of \$5,000.00 to install owner furnished equipment in Building #2. The revised contract amount is now \$180,000.00 and the revised building labor breakdown is now:
- Building #1 labor costs are \$27,562.50
Building #2 labor costs are \$36,500.00
Building #3 labor costs are \$19,687.50
 - Building #1 labor costs are \$27,562.50
Building #2 labor costs are \$31,500.00
Building #3 labor costs are \$19,687.50
 - Building #1 labor costs are \$61,250.00
Building #2 labor costs are \$70,000.00
Building #3 labor costs are \$48,750.00
 - None of the above.
17. In "Architectural Scale"
- If 1/4" equals 1'-0" what does 1/8" equal?
 - 4"
 - 6"
 - 4-1/2"
 - 3"
 - If 3/8" equals 1'-0" what does 1/4" equal?
 - 6"
 - 8"
 - 18"
 - 14'
 - If 1/2" equals 1'-0" what does 2" equal?
 - 3'-0"
 - 4'-0"
 - 1'-6"
 - 3'-6"

- D. If 1" equals 1'-0" what does 1/4" equal?
1. 3"
 2. 4"
 3. 4'
 4. 2'
- E. If 1-1/2" equals 1'-0" what does 1/4" equal?
1. 2"
 2. 4"
 3. 6"
 4. 6-1/2"
18. T F Plumbing and electrical drawings are diagrammatic only.
19. T F The work of a specialty contractor or sub-contractor may be shown or specified in any part of the drawings and specifications.
20. T F It is the general contractor's responsibility to advise subcontractors that an addenda have been issued.
21. Elements of the contract documents, per AIA Form A201 General Conditions of the Contract for Construction, include (choose at least four):
- A. Agreement
 - B. General & Supplementary Conditions
 - C. Drawings
 - D. Specifications
 - E. Addenda
 - F. Modifications including change orders and field orders.
22. Contractor's duties, defined by AIA Form A201, "General Conditions of the Contract for Construction," include (choose at least three):
- A. Being responsible for design errors of A/E
 - B. Direct supervision of the work with full-time superintendent
 - C. Securing and paying for building permit
 - D. Checking plans and specs for code compliance
 - E. Preparation of schedule
 - F. Jobsite safety
23. T F Procedures for settlement of damages, liens, assignments, and disputes are a part of the general conditions or supplementary general conditions.
24. T F Value engineering always reduces the cost of a project.

25. T F Conflicts in bid documents should be ignored during the bidding process.
26. If a conflict in bid documents is discovered during bid stage, the estimator should:
- A. Notify the architect immediately.
 - B. Wait until the contract is signed before “discovering” the conflict.
 - C. Wait until the affected work is to be performed before “discovering” it.
 - D. All of the above.
 - E. None of the above.
27. Errors in bid preparation, which may be acceptable by an owner or his agent for bid withdrawal without penalty, include errors in:
- A. Addition
 - B. Line item extension (multiplication)
 - C. Line item omission
 - D. All of the above
 - E. None of the above
28. Which of the following types of insurance are normally carried by the project owner during construction of the project?
- A. Workmen’s Compensation and Fire Insurance
 - B. Fire and Theft Insurance
 - C. Theft and Workmen’s Compensation Insurance
29. T F Workers’ Compensation, Employer’s Liability, Fire, Extended Coverage, Vandalism, Comprehensive General Liability, and Malicious Mischief are types of insurance required for all bid proposals.
30. In most states, Workers’ Compensation & General Liability must be carried by:
- A. General Contractor
 - B. Subcontractor
 - C. Sub-subcontractor
 - D. All of the above
 - E. None of the above
31. T F In most states, a construction contract, to be legally valid, must be in writing.

32. Given the following data from a historical cost report:

Total Units in place:	100
Total journeymen hours expended:	7
Total apprentice hours expended:	3

What is the productivity rate achieved?

- A. .1 MH/Unit
- B. 10 Unit/MH
- C. .01 MH/Unit
- D. .07 MH/Unit
- E. .03 MH/Unit

33. T F The specific requirements for record document submittal are indicated in the project specifications.

34. T F Method of Interim and Final Progress payments for the project are stipulated in the General or Special Conditions of the Job Specifications.

**GENERAL ESTIMATING KNOWLEDGE EXAM
SAMPLE TEST ANSWER SHEET**

- | | | | |
|-----|---------------------------------|-----|---------------|
| 1. | False | 18. | False |
| 2. | True | 19. | True |
| 3. | True | 20. | False |
| 4. | False | 21. | A, B, C, D, E |
| 5. | False | 22. | B, E, F |
| 6. | False | 23. | True |
| 7. | A | 24. | False |
| 8. | B | 25. | False |
| 9. | C | 26. | A |
| 10. | 12 Gallons | 27. | D |
| 11. | 0.267 Hours | 28. | B |
| 12. | \$1.20 | 29. | False |
| 13. | \$0.44 | 30. | D |
| 14. | B | 31. | False |
| 15. | C | 32. | A |
| 16. | A | 33. | True |
| 17. | A.2
B.2
C.2
D.1
E.1 | 34. | True |