

Chapter 9 Quiz: Answers

1. Four hundred and eighty minutes of production time are available per day. The schedule calls for the production of 80 units per day. Each unit of the product requires 30 minutes of work. What is the theoretical minimum number of workstations?

ANSWER: 5

2. Balancing low-cost storage with low-cost material handling is important in a(n):

ANSWER: warehouse layout

3. In a product-oriented layout, the process of deciding how to assign tasks to workstations is referred to as

ANSWER: line balancing

4. One of the major advantages of process-oriented layouts is

ANSWER: flexibility in equipment and labor assignment

5. The main advantage of a product-oriented layout is typically

ANSWER: low variable cost per unit

6. Four hundred and eighty minutes of production time are available per day. Scheduled production is 120 units per day. What is the cycle time?

ANSWER: 4 minutes

7. A process-oriented layout would be most appropriate in which of the following settings?

ANSWER: a gourmet restaurant

8. A production line is to be designed for a job with four tasks. The task times are 2.4 minutes, 1.4 minutes, 0.9 minutes, and 1.7 minutes. The maximum cycle time is _____ and the minimum cycle time is _____ minutes.

ANSWER: 6.4; 2.4

9. The assumption of stability of demand is important for justifying which of the following layout types?

ANSWER: product-oriented layout

10. An assembly line consists of 21 tasks grouped into 5 workstations. The sum of the 21 task times is 85 minutes. Cycle time for the line is 20 minutes. The efficiency of this line is

ANSWER: 85 percent

11. The central problem in product-oriented layout planning is

ANSWER: minimizing the imbalance in the work loads among workstations

12. Which of the following is strongly associated with "cross-docking"?

ANSWER: processing items as soon as they are received into a distribution center

13. A production line is to be designed to make 500 El-More dolls per day. Each doll requires 11 activities totaling 16 minutes of work. The factory operates 750 minutes per day. The cycle time for this assembly line is

ANSWER: one and one-half minutes

14. The major problem addressed by the warehouse layout strategy is
ANSWER: addressing trade-offs between space and material handling

15. A production line is to be designed for a product whose completion requires 21 minutes of work. The factory works 400 minutes per day. Can an assembly line with five workstations make 100 units per day?

ANSWER: no, it will fall short even with a perfectly balanced line

16. Which of the statements below best describes **office layout**?

ANSWER: groups workers, their equipment, and spaces; offices to provide for movement of information

17. The fixed-position layout would be most appropriate in which of the following settings?

ANSWER: a cruise ship assembly facility

18. A process layout problem consists of 4 departments, each of which can be assigned to one of four rooms. The number of different solutions to this problem is _____, although not all of them may have different material handling costs.

ANSWER: 24

19. Cycle time is computed as

ANSWER: daily operating time divided by the scheduled output

20. "A special arrangement of machinery and equipment to focus on production of a single product or group of related products" describes what layout type?

ANSWER: work cell