Module 00102–15 Exam Introduction to Construction Math

Trainee Name:_____

Social Security Number:_____ **Date:**_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1. What is the place value of 2 in the number 123,456?
   a. hundreds
   b. thousands
   c. ten thousands
   d. hundred thousands

2. Forty–five thousand, six hundred twelve pipe fittings have been ordered for a large project. How would you write this number as a whole number using digits?
   a. 4,561
   b. 4,562
   c. 45,612
   d. 450,612

3. Add the following numbers together: 811, 901, 88, and 5. The sum is _____.
   a. 1,705
   b. 1,775
   c. 1,795
   d. 1,805

4. Your job as a carpenter pays $20/hour and you worked 40 hours last week. The taxes withheld from your wages were $83 federal tax and $19 state tax. Your total check is _____.
   a. $698
   b. $720
   c. $810
   d. $912

5. A package contains 12 electrical locks, each with a unique key. A package is delivered to 16 job site superintendents. How many unique keys will result from the distribution?
   a. 192
   b. 180
   c. 48
   d. 28

6. You have 5,814 meters of rope that you need to cut into 27 meter sections. How many 27 meter sections of rope will you be able to create, and how much rope will be left over as waste?
   a. 215 sections with 3 meters left over
   b. 215 sections with 8 meters left over
   c. 215 sections with 9 meters left over
   d. 218 sections with 3 meters left over

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7. An equivalent fraction to 5/16 is _____.
   a. 5/32
   b. 10/32
   c. 1/2
   d. 10/16

8. When reduced to its lowest terms, the fraction 12/16 would read as _____.
   a. 3/4
   b. 5/8
   c. 8/12
   d. 12/8

9. The improper fraction 37/6 can be changed to the mixed number _____.
   a. 6
   b. 5–7/16
   c. 6–1/6
   d. 37

10. 1/4 + 3/8 = _____. Reduce your answer to the lowest terms.
   a. 4/8
   b. 1/2
   c. 5/8
   d. 5/4

11. 8/12 – 4/8 = _____. Reduce your answer to the lowest terms.
   a. 4/24
   b. 2/14
   c. 1/7
   d. 1/6

12. 7/8 × 3/9 = _____. Reduce your answer to the lowest terms.
   a. 21/72
   b. 24/63
   c. 7/24
   d. 8/21

13. 7/8 ÷ 7/16 = _____. Reduce your answer to the lowest terms.
   a. 7/32
   b. 7/2
   c. 1
   d. 2

14. In a number such as 52.25, any numbers shown to the right of the decimal point represent _____.
   a. that part of the number that is greater than 1
   b. that part of the number that is less than 1
   c. an improper number
   d. an improper fraction

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15. Of the following series of numbers, which is the higher number? 0.04671; 0.04761; 0.4761; 0.4671.
    a. 0.04671
    b. 0.04761
    c. 0.4761
    d. 0.4671

16. One sheet of drywall weighs 48.7 pounds. If 50 sheets are ordered, the total weight of the order would be _____.
    a. 2,532.0 pounds
    b. 2,435.0 pounds
    c. 2,430.0 pounds
    d. 243.5 pounds

17. You need to mix 42 kilograms of mortar. Each kilogram of mortar mix requires 0.03 liters of water. How many liters of water do you need? (Round your answer to the nearest tenth of a liter.)
    a. 1.2 liters
    b. 1.3 liters
    c. 12.6 liters
    d. 13.2 liters

18. When a number is stated as a percentage, it means that number represents a portion of _____.
    a. 50
    b. 100
    c. 250
    d. 1,000

19. When converting decimals to a percentage, simply move the decimal point _____.
    a. one place to the left
    b. one place to the right
    c. two places to the left
    d. two places to the right

20. Convert 0.86 into a fraction and reduce the answer to lowest terms.
    a. 86/100
    b. 14/100
    c. 43/50
    d. 7/50

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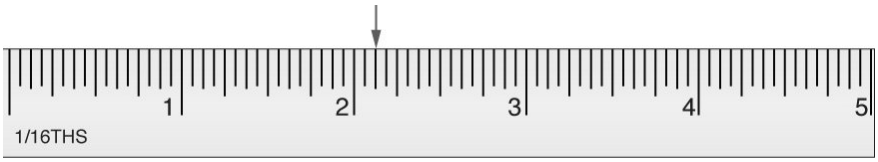
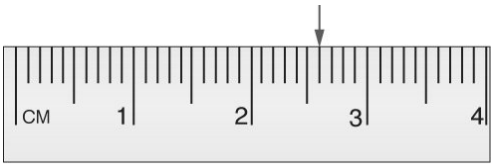
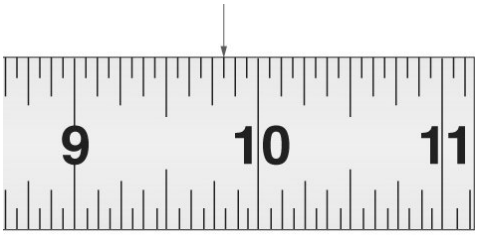


21. The marked measurement in the figure above indicates _____.
    a. 2–1/8 inches
    b. 2–3/16 feet
    c. 2–1/4 inches
    d. 2–1/2 feet



22. The marked measurement in the figure above indicates _____.
    a. 2–3/10 centimeters
    b. 2.35 meters
    c. 2.5 meters
    d. 2.6 centimeters

23. The metric ruler is typically divided into _____.
    a. inches and half inches
    b. centimeters and millimeters
    c. millimeters and decimeters
    d. eighth inches and sixteenth inches



24. The marked measurement in the figure above indicates _____.
    a. 9–11/16 centimeters
    b. 9–11/16 inches
    c. 9–13/16 inches
    d. 9–13/16 centimeters

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25. An inside measurement can be taken with a tape measure by _____.
    a. adding the length of the tape measure case
    b. subtracting the length of the tape measure case
    c. removing the tape from the case
    d. adding the thickness of the tape hook

26. In the metric system, each millimeter increment is equal to _____.
    a. 1/1000 of a centimeter
    b. 1/100 of a centimeter
    c. 1/10 of a centimeter
    d. 10 centimeters

27. Convert 612 feet to meters using the following information: 1 meter = 3.28 feet. Round your answer to the nearest one-hundredth.
    a. 186.59 meters
    b. 200.79 meters
    c. 1865.85 meters
    d. 2007.97 meters

28. Using the formula *1 kg = 2.205 pounds*, 165 pounds converts to a weight of _____.
    a. 10.3 centimeters
    b. 74.8 kilograms
    c. 149.6 milligrams
    d. 363.8 kilometers

29. One ounce is equal to 28.35 grams. Convert 16 ounces to grams. Round your answer to the nearest tenth.
    a. 1.8 grams
    b. 12.4 grams
    c. 44.4 grams
    d. 453.6 grams

30. One cubic meter represents a cube shape that measures 1 meter in all three dimensions. How long is each side in centimeters?
    a. 1 cm
    b. 10 cm
    c. 100 cm
    d. 1,000 cm

31. On the Fahrenheit scale, how many degrees are there between the freezing and boiling point of water?
    a. 60 degrees
    b. 100 degrees
    c. 180 degrees
    d. 212 degrees

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32. Convert 70°F to Celsius using the following formula: °C = 5/9 (°F–32). Round your answer to the nearest degree.
    a. 21°C
    b. 53°C
    c. 126°C
    d. 158°C

33. If an angle is not acute, straight, or obtuse, it must be a(n) _____.
    a. metric angle
    b. opposite angle
    c. right angle
    d. adjacent angle

34. While the measurement of the individual angles in a triangle can vary, their sum is always _____.
    a. 45
    b. 90
    c. 180
    d. 360

35. What does a square have in common with a rectangle?
    a. All four sides are equal in length.
    b. All four corners are 90 degree angles.
    c. The sum of all four angles is always 180 degrees.
    d. The area can be found by multiplying pi times the length of any side.

36. The circumference of a circle represents _____.
    a. the distance around the outside
    b. the length of a straight line passing across the center to both sides
    c. the length of a line from the center to any point on the circle
    d. another name for the mathematical constant pi

37. Given the equation 1/2(b × h), the area of a triangular roof section with a base of 7 feet and a height of 3.5 feet is _____.
    a. 7 cu ft
    b. 12 sq ft
    c. 12.25 sq ft
    d. 24.5 sq ft

38. A floor for a 4–meter square shed must be fabricated. The area of the floor is _____.
    a. 16 m^3
    b. 16 m^2
    c. 64 m^2
    d. 64 m^3

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39. The volume of a shape in the metric system is stated in terms of _____.

a. cu m
b. sq m
c. cu ft
d. sq ft

40. The volume of a 9–inch cube is _____.

a. 243 cu yd
b. 729 cu in
c. 818 sq in
d. 1,243 cu in

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