



SAMPLE TEST

Attached is a sample test and answers which is being provided to you as an aid in preparation for the upcoming exam. It has been suggested that this may reflect what you might find on the test itself.

Please note this is not endorsed by U.A. Local 343's Apprenticeship Program, as we do not see the actual exam itself and therefore cannot verify the similarities or accuracy.

Numerical Ability

Directions

This test consists of thirty-five numerical problems. Next to each problem are possible answers. You must pick the correct answer and **blacken** the letter on the ANSWER SHEET. Only one answer should be marked for each problem.

Do your figuring on the **scratch paper** you have been given and reduce fractions to the lowest terms. Here are some examples:

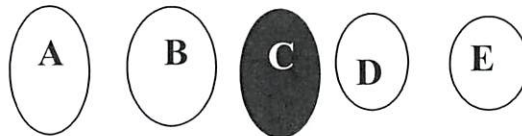
Example 1.

$$\begin{array}{r} 32 \\ - 24 \\ \hline \end{array}$$

- A. 5
- B. 12
- C. 8
- D. 6
- E. none of these

On your answer sheet, you would **blacken choice C**.

Answer ⇒



You will have 45 minutes for this test. Work as rapidly and as accurately as you can.

DO NOT spend a long time on any one problem. If you are not sure of an answer, mark the choice which is your best guess.

DO NOT TURN THE PAGE UNTIL YOU ARE TOLD TO DO SO.

Numerical Ability

1. Multiply $3\frac{1}{8}$ by $2\frac{1}{4}$
- A. $7\frac{1}{32}$ B. $6\frac{1}{32}$ C. $6\frac{1}{16}$ D. $7\frac{1}{16}$ E. None of these

2. Add $2\frac{1}{4}$ " + $7\frac{3}{8}$ " + $1\frac{1}{8}$ "
- A. $10\frac{5}{20}$ B. $10\frac{3}{256}$ C. $10\frac{5}{8}$ D. $10\frac{3}{4}$ E. None of these

3. An apprentice's rate of pay is \$560 for a 5 day work week. How much has the apprentice earned if the apprentice works 3 days ($\frac{3}{5}$ of a week)?

- A. \$112 B. \$1,680 C. \$336 D. \$448 E. None of these

4. Divide 7.238 by 3.08

- A. 2.42 B. 2.35 C. 2.04 D. 2.22 E. None of these

5. The number 9.425 is 58% of what number?

- A. 546.65 B. 5.4665 C. 18.25 D. 16.25 E. None of these

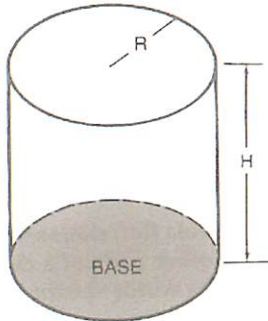
6. If 120 gallons of liquid will flow through a pipe in 8 minutes, how much liquid will flow through the same pipe in 5 minutes?

- A. 60 gallons B. 3 gallons C. 192 gallons D. 75 gallons E. None of these

7. The area of a rectangle is 6,480 square inches. Convert this measurement to square feet.

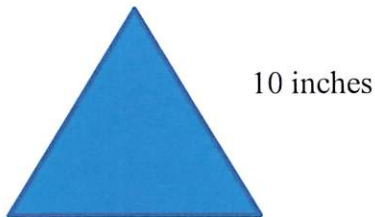
- A. 720 square feet B. 540 square feet C. 45 square feet D. 240 square feet E. None of these

8. The volume in cubic feet of a right circular cylinder is given by the formula $V=\pi r^2h$. If a water tank is in the shape of a cylinder, find the volume whose radius is 10 feet, and height is 60 feet. Use the approximation of π to be 3.14.



- A. 3,768 cubic feet
- B. 18,840 cubic feet
- C. 37,680 cubic feet
- D. 7,536 cubic feet
- E. none of these

9. An equilateral triangle has a side equal to 10 inches. Find the length of the altitude, to two decimal places.



- A. 7.66 inches
- B. 8.66 inches
- C. 9.66 inches
- D. 10.66 inches
- E. None of these

10. The first floor elevation is noted on the plans in engineer's measurements as 84.62 feet. The second floor is 13 feet 9 inches above the first. What is the elevation of the second floor in engineer's measurements?

- A. 97.37 ft
- B. 97.71 ft
- C. 98.37 ft
- D. 98.71 ft
- E. None of these

11. The formula relating Celsius and Fahrenheit is given by the formula

$$F = \frac{9}{5}C + 32 . \text{ Use the formula to convert } 98.6^{\circ}\text{F to Celsius.}$$

- A. 30°C
- B. 33°C
- C. 35°C
- D. 37°C
- E. None of these

12. What is the velocity (rate of speed) of water traveling 160 feet through a pipe in 20 second?

- A. 1,300 feet per second
B. 8 feet per second
C. $\frac{1}{8}$ feet per second
D. 80 feet per second
E. None of these

13. The inside diameter of a pipe is $1\frac{1}{8}$ inches and the outside diameter is $1\frac{1}{2}$ inches. Find the thickness of the pipe wall.

- A. $\frac{3}{8}$
B. $\frac{1}{2}$
C. $\frac{3}{16}$
D. $\frac{1}{4}$
E. None of these

14. Divide $.01200\overline{)0.00048}$

- A. .004
B. .04
C. .4
D. 4
E. None of these

15. Write the decimal equivalence of $4\frac{3}{8}$

- A. 4.335
B. 4.2275
C. 4.452
D. 4.375
E. None of these

16. Convert $\frac{5}{8}$ to a decimal

- A. 1.6
B. .16
C. .625
D. .0625
E. None of these

17. A toilet requires 1.6 gallons of water for a single flush. On average, a toilet is flushed 8 times in a single hour. How much water is flushed in 10 hours?

- A. 12.8 gallons
B. 128 gallons
C. 1,280 gallons
D. 12,800 gallons
E. None of these

18. What would be the weight of a log that measures 12 inches by 18 inches by 28 feet, given that log weighs 32 lbs. per cubic foot?

- A. 133.4 lbs. B. 143.4 lbs. C. 1,304 lbs. D. 1,344 lbs. E. None of these

19. $84 \div 7 =$

- (A) 11
(B) 12
(C) 13
(D) 14

20. 35% can be written as

- (A) $\frac{35}{1,000}$
(B) $\frac{35}{100}$
(C) $\frac{35}{10}$
(D) $\frac{35}{1}$

21. $1,000 \times 40 =$

- (A) 400
(B) 4,000
(C) 40,000
(D) 400,000

22.
$$\begin{array}{r} 947.17 \\ - 447.59 \\ \hline \end{array}$$

- (A) 490.42
(B) 499.58
(C) 500.42
(D) 500.58

23.
$$\begin{array}{r} \frac{1}{10} \\ + \frac{3}{10} \\ \hline \end{array}$$

- (A) $\frac{1}{5}$
- (B) $\frac{2}{5}$
- (C) $\frac{1}{2}$
- (D) 4

24. $\frac{16}{3} \times \frac{15}{4} =$

- (A) $\frac{59}{7}$
- (B) 9
- (C) $\frac{61}{4}$
- (D) 20

25.
$$\begin{array}{r} 6,007 \\ - 5,239 \\ \hline \end{array}$$

- (A) 768
- (B) 778
- (C) 878
- (D) 1,768

26. $9 \times (7 + 6) =$

(A) 69

(B) 96

(C) 117

(D) 378

27. **Twenty seconds is what fractional part of one minute?**

(A) $\frac{2}{3}$

(B) $\frac{1}{3}$

(C) $\frac{1}{4}$

(D) $\frac{1}{5}$

28.
$$\begin{array}{r} 82 \\ \times 0.006 \\ \hline \end{array}$$

(A) 492

(B) 5.02

(C) 0.492

(D) 0.482

29. $\frac{5}{6} \times 3 =$

(A) $\frac{15}{18}$

(B) $1\frac{1}{3}$

(C) $2\frac{1}{2}$

(D) $3\frac{3}{5}$

30.
$$\begin{array}{r} 1\frac{1}{2} \\ 2\frac{2}{3} \\ + 3\frac{5}{6} \\ \hline \end{array}$$

(A) 7

(B) $7\frac{1}{2}$

(C) $7\frac{5}{6}$

(D) 8

31. $76 \overline{)7834}$

(A) 13 with remainder 16

(B) 98 with remainder 8

(C) 103 with remainder 6

(D) 117 with remainder 12

32. 6 yards 1 foot 9 inches
-2 yards 2 feet 10 inches

- (A) 3 yards 1 foot 9 inches
- (B) 3 yards 1 foot 11 inches
- (C) 4 yards 10 inches
- (D) 4 yards 1 foot 11 inches

33. $76,572 \div 709 =$

- (A) 18
- (B) 38
- (C) 108
- (D) 180

34. $\frac{13}{8} \div \frac{11}{4} =$

- (A) $\frac{32}{143}$
- (B) $\frac{13}{22}$
- (C) $\frac{22}{13}$
- (D) $\frac{143}{32}$

35.
$$\begin{array}{r} 309 \\ \times 68 \\ \hline \end{array}$$

- (A) 4,812
- (B) 20,012
- (C) 20,912
- (D) 21,012

Solution Numerical Ability 3A

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|-------|-------|-------|-------|
| 1. A | 12. C | 23. B | 34. B |
| 2. D | 13. C | 24. D | 35. D |
| 3. C | 14. B | 25. A | |
| 4. B | 15. B | 26. C | |
| 5. D | 16. C | 27. B | |
| 6. D | 17. B | 28. C | |
| 7. C | 18. D | 29. C | |
| 8. B | 19. B | 30. D | |
| 9. B | 20. B | 31. C | |
| 10. C | 21. C | 32. B | |
| 11. D | 22. B | 33. C | |