

Zeta Placement Pre/Post Test

Rewrite each number without an exponent.

1. $1^6 = \underline{1}$

2. $8^2 = \underline{64}$

3. $10^3 = \underline{1,000}$

Write in decimal notation.

4. $5 \times 10^3 + 2 \times 10^2 + 7 \times 10^1 + 1 \times 10^0 + 3 \times \frac{1}{10^1} + 4 \times \frac{1}{10^2} + 9 \times \frac{1}{10^3} =$
 $\underline{5,271.349}$

Add or subtract the decimal numbers.

5.
$$\begin{array}{r} 7.52 \\ -1.85 \\ \hline 5.67 \end{array}$$

6.
$$\begin{array}{r} 6.0 \\ +5.28 \\ \hline 11.28 \end{array}$$

7.
$$\begin{array}{r} 32.041 \\ -0.596 \\ \hline 31.445 \end{array}$$

Multiply the decimal numbers.

8.
$$\begin{array}{r} 2.49 \\ \times 0.6 \\ \hline 1.494 \end{array}$$

9.
$$\begin{array}{r} 1.7 \\ \times 3 \\ \hline 5.1 \end{array}$$

10.
$$\begin{array}{r} 0.004 \\ \times 0.05 \\ \hline 0.00020 \end{array}$$

Convert using whatever method you prefer.

11. $13 \text{ km} = \underline{1,300,000} \text{ cm}$

12. $\underline{0.25} \text{ g} = 250 \text{ mg}$

Write each percentage as a decimal.

13. $5\% = \underline{0.05}$

14. $65\% = \underline{0.65}$

Write each percentage as a reduced fraction.

15. $25\% = \frac{25}{100} = \frac{1}{4}$

16. $32\% = \frac{32}{100} = \frac{8}{25}$

Change each fraction to a decimal and then to a percentage. Include a fraction in one hundredths place if needed and do not round.

17. $\frac{8}{10} = \underline{0.8} = \underline{80}\%$

18. $\frac{5}{6} = \underline{0.83\frac{1}{3}} = \underline{83\frac{1}{3}}\%$

Write the mixed number as a percentage and as a decimal.

19. $4\frac{3}{5} = \frac{400}{100} + \frac{60}{100} = \frac{460}{100} = \underline{4.60} = \underline{460\%}$

Change each decimal to a reduced fraction.

20. $0.78 = \frac{78}{100} = \frac{39}{50}$

21. $0.03 = \frac{3}{100} = \underline{\hspace{2cm}}$

Divide to the thousandths place and round to the nearest hundredth.

22. $4 \overline{) 13.3}$

$$\begin{array}{r} 3.325 \approx 3.33 \\ 4 \overline{) 13.300} \\ \underline{12\ 00} \\ 130 \\ \underline{120} \\ 10 \\ \underline{8} \\ 2 \end{array}$$

23. $7 \overline{) 4.58}$

$$\begin{array}{r} 0.654 = 0.65 \\ 7 \overline{) 4.580} \\ \underline{4200} \\ 380 \\ \underline{350} \\ 30 \\ \underline{28} \\ 2 \end{array}$$

Divide until you see a pattern and write the answer with a line over the repeat.

24. $0.6 \overline{) 39.4}$

$$\begin{array}{r} 65.66 = 65.\overline{6} \\ .6 \overline{) 39.400} \\ \underline{36000} \\ 3400 \\ \underline{3000} \\ 400 \\ \underline{360} \\ 40 \\ \underline{36} \\ 4 \end{array}$$

25. $0.03 \overline{) 0.022}$

$$\begin{array}{r} 0.733 = 0.\overline{73} \\ .03 \overline{) .02200} \\ \underline{2100} \\ 100 \\ \underline{90} \\ 10 \\ \underline{9} \\ 1 \end{array}$$

Divide to the hundredths place. Include a fraction in your answer if there is still a remainder.

26. $11 \overline{)9.}$

$$\begin{array}{r} 0.81\frac{9}{11} \\ 11 \overline{)9.00} \\ \underline{880} \\ 20 \\ \underline{11} \\ 9 \end{array}$$

27. $9 \overline{)5}$

$$\begin{array}{r} 0.55\frac{5}{9} \\ 9 \overline{)5.00} \\ \underline{450} \\ 50 \\ \underline{45} \\ 5 \end{array}$$

Solve for the unknown. Check your answer by using it in the original problem.

28. $3.2X + 0.07 = 4.55$

$$\begin{array}{l} 3.2X + 0.07 = 4.55 \\ 3.2X = 4.55 - 0.07 \\ 3.2X = 4.48 \\ X = 4.48 \div 3.2 \\ X = 1.4 \end{array}$$

29. Check for #28

$$\begin{array}{l} 3.2(1.4) + 0.07 = 4.55 \\ 4.48 + 0.07 = 4.55 \\ 4.55 = 4.55 \end{array}$$

Fill in the blanks.

30. A plane has infinite length and width and is said to be two-dimensional.

31. A line segment has two endpoints.

32. A point has no length or width.

33. A line has length but no width.

34. A ray has one endpoint.

35. An angle with a measure less than 180° but greater than 90° is a(n) obtuse angle.

36. An angle with a measure less than 90° but greater than 0° is a(n) acute angle.

37. Two figures that are the same shape but different sizes are said to be similar.

38. There are 360 degrees in a circle.

39. The measure of a right angle is 90° .

40. An angle with a measure of 180° is a(n) straight angle.

41. Two shapes that are exactly the same are said to be congruent.

42. Find the approximate area and circumference of a circle that has a radius of three feet.

$$A \approx 3.14(3 \text{ ft})^2 \approx 28.26 \text{ ft}^2$$
$$C \approx 3.14(6 \text{ ft}) \approx 18.84 \text{ ft}$$

43. Judith received the following amounts of money for doing chores: \$5, \$7, \$3.50, \$5, and \$8. Give the mean, median, and mode for her earnings.

$$\$3.50 + \$5 + \$5 + \$7 + \$8 = \$28.50$$
$$\text{mean} = \$28.50 \div 5 = \$5.70, \text{ median} = \$5, \text{ mode} = \$5$$

44. Melanie ordered books from a catalog. The prices of the books added up to \$45.60. She had to pay a 6% tax and 8% for shipping. What was the total cost of her order?

$$\$45.60 \times 1.14 \approx \$51.98$$

45. Brandon entered a contest for free math materials. 758 people each put in one entry, and there will be only one winner. What is the probability of Brandon winning the contest?

$$\frac{1}{758}$$