Diagnostic Math Test

1. $\dfrac{(5 + 3)\,(12 \div 3)}{(4 * 7)\,(15 \div 5)} =$

    _____

2. List all the factors of 90.

    _____

3. Indicate whether each of the following must be an even number by answering "yes" or "no."

    a. odd number * even number

    _____

    b. even number ÷ even number

    _____

    c. even number + even number

    _____

4. $\dfrac{\frac{2}{3} + \frac{1}{5} * \frac{3}{4}}{\left(\frac{3}{5} - \frac{1}{4}\right) \div \frac{5}{3}} =$

    _____

5. Convert $3\frac{7}{20}$ to a decimal

    _____

6. .035 + .007 - .204 + .544 =

    _____

7. .05 * .3 =

    _____

8. Convert $2\frac{3}{8}$ to a percent.

    _____

9. 4 is what percent of 20?

    _____

10. Convert 4.45 to a fraction.

    _____

11. The price of an item increased from $3.00 to $3.45. What was the percent increase in price?

    _____

12. Zoey's average score was 85. She received scores of 90, 80, 78, and 82 of four of the five tests. What was her score on the fifth test?

    _____

13. A jar contains pink and green jellybeans in the ratio 2:3. If the jar contains a total of 30 jelly beans, how many of them are green?   _____

14. In the proportion $\frac{x}{5} = \frac{12}{30}$, x =   _____

15. What is the value of 4 raised to the third power?   _____

16. $\sqrt{16} - \sqrt{36}$ =   _____

17. $3y - 5x + 4y + x$ =   _____

18. $\dfrac{(-2xy^2)^3}{x^4 y^4}$ =   _____

19. $(2x + y)(2x + y)$ =   _____

20. Factor $6x^2 + 29x + 9$ =   _____

21. If $2x + y = 14$ and $x - y = 1$, then x =   _____

Answers

1.	$\frac{8}{21}$	8.	237.5%	15.	64
2.	1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90	9.	20%	16.	- 2
3.	a. yes b. no c. yes	10.	$\frac{89}{20}$	17.	7y - 4x
4.	$\frac{35}{9}$	11.	15%	18.	$\frac{-8y^2}{x}$
5.	3.35	12.	95	19.	$4x^2 + 4xy + y^2$
6.	.382	13.	18	20.	(2x + 9) (3x + 1)
7.	.015	14.	2	21.	5