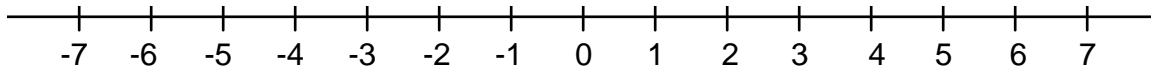


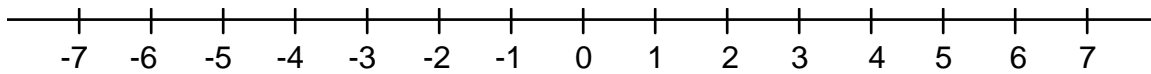
# MATD 0370 - Elementary Algebra

## Review for Pretest

1. Graph  $-3.2$  on the number line provided.



2. Graph  $-5\frac{3}{4}$  on the number line provided.



3. True or false:

- (a)  $-3 < -7$       (b)  $5 \leq 5$       (c)  $9 \geq -9$       (d)  $-5 > -3$       (e)  $-2 \geq -2$

4. Which symbol,  $>$  or  $<$ , makes a true statement when placed in the blank between the given pairs of numbers?

- (a)  $5\frac{1}{5}$  \_\_\_\_  $5.02$       (b)  $-3.2$  \_\_\_\_  $-3.3$       (c)  $\frac{5}{16}$  \_\_\_\_  $\frac{7}{24}$       (d)  $-\frac{7}{8}$  \_\_\_\_  $-\frac{5}{6}$       (e)  $-3\frac{1}{4}$  \_\_\_\_  $-2\frac{3}{4}$

5. Arrange the numbers  $-3.04$ ,  $-3.1$ ,  $-3.024$ , and  $-3.\overline{1}$  from smallest to largest.

6. Arrange the numbers  $\frac{3}{4}$ ,  $\frac{4}{5}$ , and  $\frac{5}{8}$  from smallest to largest.

7. Evaluate:  $|-5|$

8. Divide:  $\frac{2}{3} \div \frac{5}{9}$

9. Add:  $-\frac{7}{8} + \frac{5}{6}$

10. Subtract:  $-3.02 - (-4.5)$

11. Multiply:  $-8 \cdot 3\frac{1}{3}$

12. Divide:  $-2.4 \div (-0.03)$

13. Evaluate:  $-5^2$

14. Evaluate:  $\left(-\frac{2}{3}\right)^3$

15. Evaluate:  $(-1 - 2.1)^2$

16. Simplify:  $5 - 2[-3 - 2(4 - 6)]$

17. Simplify:  $-5 \cdot 4 - \frac{6 + 10}{3 + 1}$

18. Simplify:  $-6^2 - (2 \cdot 4 - 6 \div 2) - (-4)^2$

19. Subtract and simplify if possible:  $\frac{8x}{10} - \frac{7x}{20}$

20. Combine like terms:  $-3x - 5 - 2x^2 + 7 + x^2 - x$

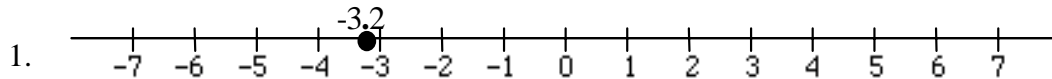
21. Simplify:  $3(-4m + 7) - (5m - 6)$

22. Solve:  $\frac{2}{3}x - 7 = 5$

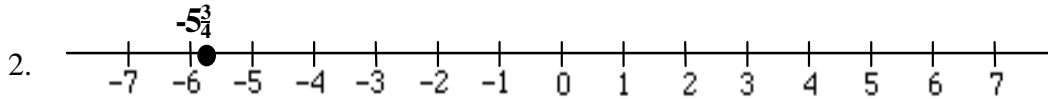
23. Solve:  $5.2 - 3s = s - 3.5$
24. Solve:  $4v - (v - 2) = 7 - 2(3v - 4)$
25. Write an expression to represent the expression "5 less than the product of 3 and a number". Let  $n$  represent the number.
26. Write an expression to represent the expression "the quotient of 3 more than a number and double the number". Let  $x$  represent the number.
27. Simplify:  $(2c^4)^3$
28. Evaluate  $2x^3 - 3x^2 + 5x - 9$  for  $x = -2$ .
29. Add:  $(3x^2 - 5x + 2) + (-x^2 + 7x - 8)$
30. Subtract:  $(-2x^2 + 4x - 7) - (8x - 10)$
31. Multiply:  $-5t(4t^2 - 3t)$
32. Reduce:  $\frac{-25x^3}{35x^2}$
33. Express each of the following as the product of prime factors: (a) 42 (b) 48
34. Find the LCM for 42 and 48.
35. What number is 45% of 62.4?
36. What percent of 36 is 4.5?
37. 240 is 160% of what number?
38. The formula for the area of a circle is  $A = \pi \cdot r^2$ . What is the area of a circle that has a radius of 6 inches? Use 3.14 for  $\pi$ . Round your answer to the nearest tenth.
39. The sum of triple a number and 8 is  $-13$ . What is the number?
40. The product of 7 and a number is 2 less than the number. What is the number?
41. If a recipe for sugar cookies requires  $2\frac{1}{4}$  cups of flour to make 36 cookies, how much flour would be needed to make 60 of the cookies?
42. At a particular college the ratio of men to women is 35 to 45. If there are 9135 women at the college, how many men are there at the college?

## Answers

(Each answer is followed by the name of the topic that the problem is most closely associated with. If you get a wrong answer and want additional information on how to do the problem, look for this topic in the index of a prealgebra textbook.)



(plotting real numbers on a number line)



(plotting real numbers on a number line)

3. (a) False      (b) True      (c) True      (d) False      (e) True  
(ordering real numbers, less than, greater than)

4. (a) >      (b) >      (c) >      (d) <      (e) <  
(ordering real numbers, less than, greater than)

5.  $-3.\bar{1}$ ,  $-3.1$ ,  $-3.04$ ,  $-3.024$  (ordering real numbers, less than, greater than)

6.  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{4}{5}$  (ordering real numbers, less than, greater than)

7. 5 (absolute value)

8.  $\frac{6}{5}$  or  $1\frac{1}{5}$  (division of fractions)

9.  $-\frac{1}{24}$  (addition of signed fractions)

10. 1.48 (addition of signed decimals)

11.  $-26\frac{2}{3}$  (multiplication of signed fractions)

12. 80 (division of signed decimals)

13.  $-25$  (exponents, order of operations)

14.  $-\frac{8}{27}$  (exponents, multiplication of signed fractions)

15. 9.61 (exponents, multiplication of signed decimals)

16. 3 (order of operations)

17.  $-24$  (order of operations)

18.  $-57$  (order of operations)

19.  $\frac{9x}{20}$  (combining like terms)

20.  $-x^2 - 4x + 2$  (combining like terms)

21.  $-17m + 27$  (distributive property, combining like terms)

22. 18 (linear equations with one variable)

23. 2.175 (linear equations with one variable)

24.  $\frac{13}{9}$  (linear equations with one variable)
25.  $3n - 5$  (translating English into algebra)
26.  $\frac{x+3}{2x}$  (translating English into algebra)
27.  $8c^{12}$  (properties of exponents)
28.  $-47$  (evaluating polynomials)
29.  $2x^2 + 2x - 6$  (adding polynomials)
30.  $-2x^2 - 4x + 3$  (subtracting polynomials)
31.  $-20t^3 + 15t^2$  (multiplying polynomials)
32.  $\frac{-5x}{7}$  (reducing rational expressions)
33. (a)  $2 \cdot 3 \cdot 7$  (b)  $2^4 \cdot 3$  (factoring integers into primes)
34. 336 (least common multiple)
35. 28.08 (percentages)
36. 12.5% (percentages)
37. 150 (percentages)
38.  $113.0 \text{ in}^2$  (evaluating formulas)
39.  $-7$  (applications of linear equations with one variable)
40.  $-\frac{1}{3}$  (applications of linear equations with one variable)
41.  $3\frac{3}{4}$  cups (ratio and proportion)
42. 7105 men (ratio and proportion)