

Practice WCSU Placement Test – Version B

1. Simplify  $7(2x - 5)$ .

- a)  $9x - 12$                       b)  $14x - 5$                       c)  $14x - 35$                       d)  $14x + 35$

2.  $7 - 3(2x - 5) =$

- a)  $-6x + 22$                       b)  $6x - 20$                       c)  $-6x + 35$                       d)  $6x - 5$

3. Find the number with the highest value

- a)  $\frac{1}{2}$                                   b)  $\frac{3}{8}$                                   c)  $\frac{2}{5}$                                   d) 0

4. Which is a factor of  $3x^2 - 11x - 4$ ?

- a)  $(3x + 2)$                       b)  $(3x - 2)$                       c)  $(3x + 4)$                       d)  $(3x + 1)$

5. A recipe calls for  $x$  cups of flour and makes 48 cookies. If the same proportions are maintained how many cups of flour are required to make 60 cookies.

- a)  $\frac{5x}{4}$  cups                      b)  $\frac{4x}{5}$  cups                      c)  $\frac{4}{5}$  cups                      d) 12 cups

6. In the solution of the system of equations below, what is the value of  $x$ ?

$$\begin{cases} 7x - 2y = 3 \\ 3x + 5y = 13 \end{cases}$$

- a)  $\frac{7}{3}$                                   b) 2                                  c)  $\frac{9}{5}$                                   d) 1

7.  $6\sqrt{20x^3y^5} =$

- a)  $2xy^2\sqrt{5xy}$                       b)  $60xy\sqrt{x^2y}$                       c)  $12xy^2\sqrt{5xy}$                       d)  $12xy\sqrt{5xy^2}$

8. If a number is divided by 9 and the result has two subtracted from it to give an answer of three, what is the number?

- a) 40                                  b) 36                                  c) 27                                  d) 45

9. If a shirt, tie and slacks cost \$120 and the tie cost  $x$  dollars, how much would the shirt and slacks cost together?

- a) \$120                      b)  $\$120 + x$                       c)  $\$120 - x$                       d)  $x - \$120$

10. Factor the following trinomial:  $7x^2 - 13x - 2$

- a)  $(x + 1)(7x - 2)$                       b)  $(7x - 1)(x - 2)$                       c)  $(7x + 1)(x - 2)$                       d)  $(7x + 1)(x + 2)$

11.  $8x - 9y - 9x + 21y - 7 =$

- a)  $17x + 12y - 7$                       b)  $-x + 12y - 7$                       c)  $29xy - 7$                       d)  $17x + 30y - 7$

12.  $|7 - 19| =$

- a) -12                      b) 26                      c) -6                      d) 12

13.  $\left(\frac{-3}{2}\right)^2 =$

- a)  $\frac{6}{4}$                       b)  $\frac{9}{4}$                       c)  $\frac{-9}{4}$                       d)  $\frac{-6}{4}$

14. Which is greatest?

- a)  $30 \div 5 + 2$                       b)  $30 - 5 \times 2$                       c)  $30 + 5 \div 2$                       d)  $30 \times 5 \div 2$

15.  $15 - \frac{-3}{5} =$

- a)  $15\frac{3}{5}$                       b)  $14\frac{2}{5}$                       c)  $\frac{12}{5}$                       d) 6

16.  $\left(\frac{5x}{6y^2}\right) \cdot \left(\frac{3y}{10}\right) =$

- a)  $\frac{x}{4y}$                       b)  $\frac{8xy}{16y^2}$                       c)  $\frac{25x}{9y^3}$                       d)  $\frac{40x}{9y^2}$

17. Five times the opposite of a number is less than one more than nineteen

- a)  $x < 4$                       b)  $x > -4$                       c)  $x > 4$                       d)  $x < -4$

18.  $18mn - 9n =$

- a)  $9n(2m - n)$       b)  $9n(2m - 9n)$       c)  $9n(2m - 1)$       d)  $9n$

19. Factor completely:  $25x^2 - 9y^4$

- a)  $(25x^2) - (9y^4)$       b)  $(5x - 3y)(5x + 3y)$       c)  $(25x + y)(x - 9y)$       d)  $(5x - 3y^2)(5x + 3y^2)$

20.  $(5x - 2y^2)^2 =$

- a)  $25x^2 - 20xy^2 + 4y^2$       b)  $25x^2 - 4y^4$       c)  $25x^2 + 4y^4$       d)  $25x^2 - 20xy^2 + 4y^4$

21.  $2x + a \quad bx + 4 =$

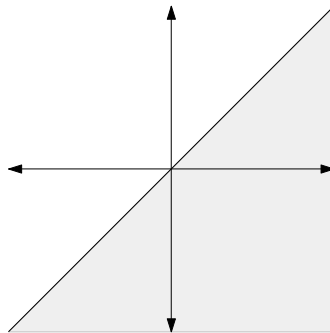
- a)  $2bx^2 + (6 + ab)x + 4a$   
b)  $2bx^2 + (ab + 8)x + 4a$   
c)  $2bx^2 + (2 + a)x + 4a$   
d)  $2bx^2 + (6ab)x + 4a$

22. If  $x$  is less than  $-5$  then  $x - 3$  must be

- a) less than  $-2$       b) less than  $-8$       c) greater than  $8$       d) between  $-3$  and  $-5$

23. Solve the following quadratic equation:  $x^2 + 6x + 9 = 0$

- a)  $x = 3$  and  $x = -3$       b)  $x = 3$       c)  $x = -3$       d)  $x = \frac{9}{7}$



24. Which of the following inequalities defines the region above?

- a)  $x \leq 0$  and  $y \leq 0$       b)  $x \geq y$       c)  $x \leq y$       d)  $x \geq 0$  and  $y \geq 0$

25.  $3x - 2 > 10$  is equivalent to

- a)  $x > -4$                       b)  $x < -4$                       c)  $x > 4$                       d)  $x < 4$

26. The inequality  $2x - 7 \geq x + 9$  is equivalent to

- a)  $x \geq 16$                       b)  $-7 \leq x \leq 9$                       c)  $x \geq 16$                       d)  $x \leq -16$

27. If  $x = 5$  then  $(3x - 2)(x + 1) =$

- a)  $-2$                       b)  $78$                       c)  $75$                       d)  $68$

28.  $\frac{m^7}{m^3} =$

- a)  $m^3$                       b)  $\frac{1}{m^4}$                       c)  $m^4$                       d)  $\frac{1}{m^{10}}$

29.  $\left(\frac{a^3b}{ab^5}\right)^2 =$

- a)  $\frac{b^8}{a^4}$                       b)  $\frac{a}{b}$                       c)  $\frac{1}{a^4b^4}$                       d)  $\frac{a^4}{b^8}$

30. If  $\frac{2t - 6}{t} = 5$ , then  $t =$

- a)  $11$                       b)  $-2$                       c)  $\frac{11}{2}$                       d)  $-\frac{1}{2}$

31.  $\frac{5}{3x} + \frac{2}{x} =$

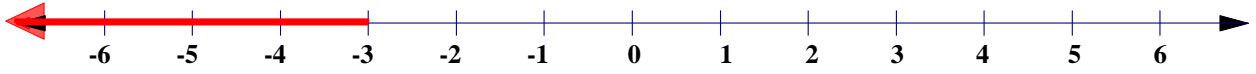
- a)  $\frac{7}{4x}$                       b)  $\frac{10}{3x^2}$                       c)  $\frac{11}{3x}$                       d)  $\frac{7}{3x}$

32.  $\frac{3}{y+2} + \frac{5}{y+1} =$

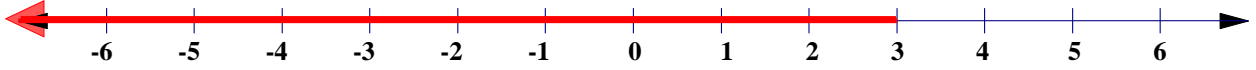
- a)  $\frac{8y+13}{(y+2)(y+1)}$                       b)  $\frac{8y+3}{(y+2)(y+1)}$                       c)  $\frac{8}{2y+3}$                       d)  $\frac{3y+3}{5y+10}$

33. Which of the following is the graph of  $3x - 4 \geq 5$ ?

a)



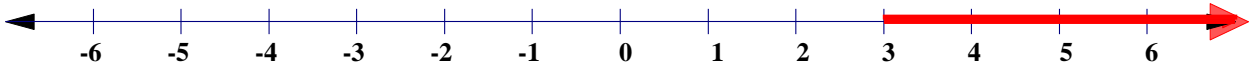
b)



c)



d)



34.  $\frac{4B^5 + B^3}{2B^2} =$

a)  $4B^5 + \frac{B}{2}$

b)  $4B^3$

c)  $\frac{5B^8}{2B^2}$

d)  $\frac{4B^3 + B}{2}$

35.  $\frac{1}{\frac{1}{x} + \frac{1}{y}} =$

a)  $\frac{y+x}{2}$

b)  $\frac{xy}{x+y}$

c)  $\frac{x+y}{xy}$

d)  $x + y$