

BASIC ALGEBRA PRACTICE FINAL B* NAME _____

SHOW ALL WORK ON THIS TEST OR ON SEPARATE PAPER. Circle answers.

1. $-6 + 4 \div 0$ 2. $|-3(2 - 5)| - 4|-6|$ 3. Solve for x:
 $-3x + 24 = -3(4 - x)$
4. Three numbers are such that the second is four more than the first, and the third is 10 less than twice the second. The sum is 50. Find the numbers.
5. A box contains \$8.50 in quarters, nickels, and dimes. There are twice as many quarters as dimes, and two more nickels than quarters. How many of each coin are there?

6. Solve for x, and graph: 7. Multiply: $(x - 3)(x^2 - 2x + 4)$
- $$-3 \leq \frac{2x - 5}{3} < 1$$
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In 8 - 10, factor completely.

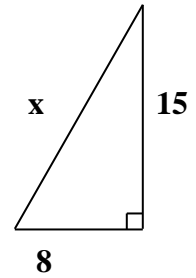
8. Express as product of primes: 2800 9. $x^2 - 16y^2$ 10. $x^2 + 2x - 48$

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11. Solve for x:

$$x^3 - 2x^2 - 24x = 0$$

12. Solve for x:



13. Simplify:

a) $2x^0$ b) $(2x)^0$

14. Simplify:

a) $2x^{-3}$ b) $(2x)^{-3}$

15. $\frac{x^2 - 6x}{x^2 - 5x - 6}$

16. $\frac{x^2 - 2x}{x^2 + 10x - 24} \cdot \frac{x^2 - 13x + 12}{x^2 - 144}$

17. $\frac{5}{14x^3} - \frac{4}{21x^2y}$

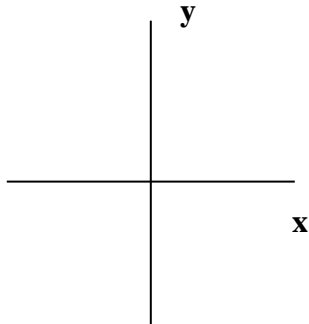
18. $\frac{x}{x^2 + 6x + 9} - \frac{5}{x^2 - 2x - 15}$

19. Solve : $\frac{x+3}{3} = \frac{x-2}{2}$

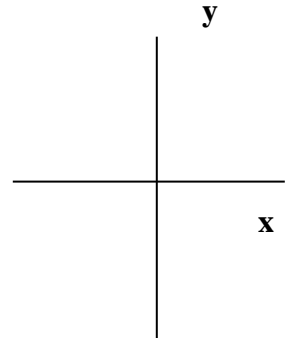
20. Solve : $\frac{4}{3x-6} = \frac{6}{x-2}$

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21. Graph: $y = \frac{2}{3}x + 4$



22. Graph: $3x + 2y = -6$



23. Find the slope, the x-intercept, and the y-intercept: $3x + 2y = -6$.

24. Find the equation of the line with slope $-3/4$ passing through $(0, -2)$.

25. Solve the system: $y = -3x + 9$
 $2x + 3y = -8$

26. Simplify: $\sqrt{300}$

27. Simplify: $\sqrt[3]{27}$

28. Simplify: $\sqrt{80x^4y^9}$

29. Simplify:
 $6\sqrt{27} - 7\sqrt{75}$

30. Simplify:
 $(5\sqrt{3} + 3\sqrt{6})^2$

31. Calculate the value:
 $(5\sqrt{3} + 3\sqrt{6})^2$