

MAT065 and MAT065CO FINAL EXAM REVIEW – FORM 3R

1. Solve for k: $mg + 2k = E$

2. Solve for m: $F = \frac{C}{ma}$

3. Find the slope, y-intercept and then graph:
 $3x - 2y = 4$

4. Find the slope, y-intercept and then graph:
 $3x + 5y = -5$

5. Simplify: $\frac{-10y^4z}{21xz^3} \cdot \frac{14x^9z^2}{-4y^7}$

6. Simplify: $\frac{8ef^2g^4}{3e^3g^3} \div \frac{-24f^5g}{e^2f}$

7. Write an equation and solve:

Twice an unknown number added to 48
is six times the same unknown number.

8. Write an equation and solve:

Eleven times an unknown number decreased by 18
is nine times the same unknown number.

9. Evaluate: $\frac{1-2^2}{-3} - 2(5-8)$

10. Evaluate: $\frac{-2(3-6)^2}{-5+2(4)}$

11. Solve and Check: $6m^2 + 15m = 0$

12. Solve and check: $24x^2 = 16x$

13. Reduce: $\frac{x^2 - 5x + 6}{x^2 - 2x - 3}$

14. Reduce: $\frac{x^2 - 10x - 24}{x^2 - 2x - 8}$

15. Simplify: $\frac{5}{8} + \frac{3}{10y}$

16. Simplify: $\frac{9}{4w} - \frac{7}{6}$

17. Evaluate: $\frac{x^2 + 3y}{z}$ if $x = -2$, $y = 4$, $z = -8$

18. Evaluate: $\frac{11b + c^2}{a}$ if $a = -2$, $b = -1$, $c = -3$

19. Simplify: $4x^3 - 3x(6x^2 - 2y) - 3y(4x)$

20. Simplify: $-5a^3b^2 + 2a^2(a + 3ab^2) - 7a^3$

21. Solve and graph: $5(x - 3) \leq x + 1$

22. Solve and graph: $-2(x + 1) < 3x + 8$

23. Solve and check: $2 - (9k - 28) = 6 - 15k$

24. Solve and check: $6 - 2(y - 5) = 12 + 3(2y - 4)$

25. Factor Completely: $3y^2 - 7y + 4$

26. Factor Completely: $4x^2 - 3x - 10$

27. Factor Completely: $4x^2 - 36y^2$

28. Factor Completely: $8y^2 - 18$

29. Is $m = -2$ a solution to the equation:

$$m^3 - m - 3 = m^2 + 5m + 5$$

31. Solve and check: $y^2 - 11y = 12$

33. Factor Completely: $6x^3y^2 - 12x^2y^3 + 3xy$

35. Solve Algebraically:
$$\begin{aligned} 3x + 2y &= -3 \\ x + y &= -1 \end{aligned}$$

37. Simplify: $2\sqrt{16} + \sqrt{50} - \sqrt{32}$

39. Simplify: $\frac{4xy^2 - 8x^2y + xy}{-xy}$

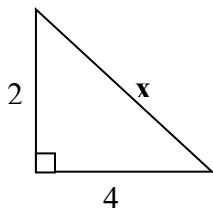
41. Multiply: $(2x - 1)(x^2 - 5x - 6)$

43. Solve: $\frac{m}{3} - \frac{5m}{12} = \frac{-1}{6}$

45. Solve and check: $100y^2 - 49 = 0$

47. Find the equation of the line that goes through $(1, 3)$ and $(-2, 0)$ in $y = mx + b$ form:

49. Solve for x :



30. Is $x = -1$ a solution to the equation:

$$-x^3 + 3x^2 - 8 = -x^2 - 2x - 5$$

32. Solve and check: $13x - 30 = x^2$

34. Factor Completely: $4a^3b^2c^2 - 2a^2b^2c^3 + 6ab$

36. Solve Algebraically:
$$\begin{aligned} 3a - 4b &= 0 \\ 2a + 3b &= -17 \end{aligned}$$

38. Simplify $\sqrt{12} + 3\sqrt{48} - 2\sqrt{300}$

40. Simplify: $\frac{6y^3z^7 - 15y^2z^3 + 9yz^5}{3yz^2}$

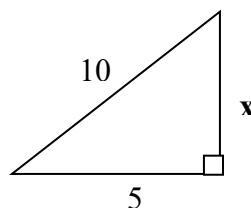
42. Multiply: $(x - 2)(x^2 + 2x + 1)$

44. Solve: $\frac{x}{3} + \frac{3}{5} = \frac{2x}{15}$

46. Solve and check: $4k^2 = 9$

48. Find the equation of the line that goes through $(-1, -5)$ and $(-3, 1)$ in $y = mx + b$ form:

50. Solve for x :



ANSWERS TO MA065 AND MA065CO FINAL EXAM REVIEW - FORM 3R

1. $k = \frac{E - mg}{2}$

2. $m = \frac{c}{Fa}$

3. $y = \frac{3x}{2} - 2$ and $m = \frac{3}{2}$, $b = (0, -2)$

4. $y = -\frac{3}{5}x - 1$ and $m = -\frac{3}{5}$, $b = (0, -1)$

5. $-\frac{5x^8}{3y^3}$

6. $-\frac{1}{9f^2}$

7. $x = 12$

8. $x = 9$

9. 7

10. -6

11. $m = 0$, $m = -\frac{5}{2}$

12. $x = 0$, $x = \frac{2}{3}$

13. $\frac{x-2}{x+1}$

14. $\frac{x-12}{x-4}$

15. $\frac{25y+12}{40y}$

16. $\frac{54-28w}{24w}$

17. -2

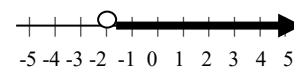
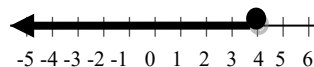
18. 1

19. $-14x^3 - 6xy$

20. $a^3b^2 - 5a^3$

21. $x \leq 4$

22. $x > -2$



23. $k = -4$

24. $y = 2$

25. $(3y - 4)(y - 1)$

26. $(4x + 5)(x - 2)$

27. $4(x - 3y)(x + 3y)$

28. $2(2y + 3)(2y - 3)$

29. No, since $-9 \neq -1$

30. Yes, since $-4 = -4$

31. $x = 12, -1$

32. $x = 10, 3$

33. $3xy(2x^2y - 4xy^2 + 1)$

34. $2ab(2a^2bc^2 - abc^3 + 3)$

35. $x = -1, y = 0$

36. $a = -4, b = -3$

37. $8 + \sqrt{2}$

38. $-6\sqrt{3}$

39. $-4y + 8x - 1$

40. $2y^2z^5 - 5yz + 3z^3$

41. $2x^3 - 11x^2 - 7y + 6$

42. $x^3 - 3x - 2$

43. $m = 2$

44. $X = -3$

45. $y = \frac{7}{10}, y = -\frac{7}{10}$

46. $k = \frac{3}{2}, k = -\frac{3}{2}$

47. $y = x + 2$

48. $y = -3x - 8$

49. $2\sqrt{5}$

50. $5\sqrt{3}$