

Classwork 10
Intermediate Algebra MTH 35
Topic: Solving Equations

Name: _____

Solve the following equations.

1. $3x - 7 = 0$

ANSWER

2. $5x + 9 = 6$

ANSWER

3. $3x - 7 = 4x + 3$

ANSWER

4. $7x - 2 = 10 - 2x$

ANSWER

5. $4 - 3x = 8 - 6x$

ANSWER

6. $x^3 - x^2 = 0$

ANSWER

7. $x^3 - x = 0$

ANSWER

8. $x^2 - 5x - 14 = 0$

ANSWER

9. $3x^2 - 4x - 4 = 0$

ANSWER

10. $36x^3 + 18x^2 = 0$

ANSWER

11. $3\sqrt{x} + 2 = 0$

ANSWER

12. $4\sqrt[3]{x} - 8 = 0$

ANSWER

13. $\sqrt{x} - x^2 = 0$

ANSWER

14. $\sqrt{x} - \sqrt[3]{x} = 0$

ANSWER

15. $\frac{9x^{7/2}}{2} - 16x = 0$

ANSWER

16. $2 - \frac{30}{x} = 0$

ANSWER

17. $3x - \frac{2}{x} = 0$

ANSWER

18. $2x^2 - \frac{5}{x^2} = 0$

ANSWER

19. $1 - \frac{x}{x^2 - 6} = 0$

ANSWER

20. $x + 1 - \frac{1}{x - 1} = 0$

ANSWER

Answers

1. $x = 7/3$
2. $x = -3/5$
3. $x = -10$
4. $x = 12/9$
5. $x = 4/3$
6. $x = 0, 1$
7. $x = 0, 1, -1$
8. $x = -2, 7$
9. $x = -2/3, 2$
10. $x = 0, -1/2$
11. $x = 4/9$
12. $x = 8$
13. $x = 0, 1$, factor out \sqrt{x} .
14. $x = 0, 1$, factor out \sqrt{x} .
15. $x = 0, (32/9)^{2/5}$, factor out x .
16. $x = 15$
17. $x = \sqrt{2/3}, -\sqrt{2/3}$
18. $x = \sqrt[4]{5/2}, -\sqrt[4]{5/2}$
19. $x = 3, -2$
20. $x = \sqrt{2}, -\sqrt{2}$

Classwork 11
Intermediate Algebra MTH 35
Topic: Logarithm

Name: _____

Evaluate the expressions:

1. $\log_9 81$

ANSWER

2. $\log_2 16$

ANSWER

3. $\log_9 \sqrt{3}$

ANSWER

4. $2^{\log_2 7}$

ANSWER

5. $\log_5 \frac{1}{25}$

ANSWER

Use definition of logarithm to find x :

6. $\log_3 x = 2$

ANSWER

7. $\log_4 x = 2$

ANSWER

8. $\log_x 8 = 3/2$

ANSWER

9. $\log_2(2x - 1) = 3$

ANSWER

10. $\log_2 x + \log_2 3x = 4$

ANSWER

Classwork 12
Intermediate Algebra MTH 35
Topic: Logarithms

Name: _____

Evaluate the expression using Laws of Logarithms.

1. $\log_2 6 - \log_3 15 + \log_2 20$

2. $\log_4 16^{100} + \log_4 64$

3. $\ln(\ln e^{e^2})$

Use Laws of Logarithms to expand or combine the expressions.

4. (Expand) $\log_3 x \sqrt{y} z^2$

5. (Combine) $\ln(a + b) + \ln(a - b) - \ln c$

6. (Expand) $\log \frac{x^2 y^3}{z^5 w^4}$

Classwork 13
Intermediate Algebra MTH 35
Topic: Exponential and Logarithmic Equations

Name: _____

Solve the following equations.

1. $2^{1-x} = 4$

2. $3^{2x-1} = 9$

3. $e^{2x} = 7$

4. $e^{2x+1} = 200$

5. $5^x = 4^{x+1}$

6. $\log(x - 4) = 2$

7. $\log_3(2 - x) = 3$

8. $2\log x = \log 2 + \log(3x - 4)$

9. $\log_2 x \log_2(x - 3) = 2$

10. $\log_5(x + 1) - \log_5(x - 1) = 2$

Classwork 13
Intermediate Algebra MTH 35
Instructor: Abhijit Champanerkar
April 13th 2015
Topic: Exponential and Logarithmic Equations

Name: _____

Solve the following equations.

1. $2^{1-x} = 4$

2. $3^{2x-1} = 9$

3. $e^{2x} = 7$

4. $e^{2x+1} = 200$

5. $5^x = 4^{x+1}$

6. $\log(x - 4) = 2$

7. $\log_3(2 - x) = 3$

8. $2\log x = \log 2 + \log(3x - 4)$

9. $\log_2 x \log_2(x - 3) = 2$

10. $\log_5(x + 1) - \log_5(x - 1) = 2$