

Last day of new material-
next Thursday, 13 May

Test #4

Tuesday, 18 May (after a 3 day weekend for seniors)

Final Exam...3 weeks from today-
May 24-25 (Tuesday & Wednesday)

Sec 4.4.1 Solving Exponentials

(equations where the exponent contains a variable)

Today-

1. rewrite to get the same base
2. set exponents equal
3. solve.



Solve-

$$2^{3x-8} = 16$$

$$2^{3x-8} = 2^4$$

$$3x - 8 = 4$$

$$3x = 12$$

$$x = 4$$

$$27^{x+3} = 9^{x+1}$$

$$3^{3(x+3)} = 3^{2(x+1)}$$

$$3x+9 = 2x+2$$

$$x = -7$$

$$4^x = 64$$

$$4^x = 4^3$$

$$x = 3$$

$$6^{1-x} = 1/216$$

$$6^{1-x} = \frac{1}{216}$$

$$6^{1-x} = \frac{1}{6^3}$$

$$6^{1-x} = 6^{-3}$$

$$1-x = -3$$

$$-x = -4$$

$$x = 4$$

$$5^{\frac{x-2}{3}} = \sqrt[3]{5}$$

$$5^{\frac{x-2}{3}} = 5^{1/3}$$

$$\frac{x-2}{3} = \frac{1}{3}$$

$$3(x-2) = 3$$

$$x-2 = 1$$

$$x = 3$$

$$e^{2x+3} = \frac{1}{e^{3x}}$$

$$e^{2x+3} = e^{-3x}$$

$$2x+3 = -3x$$

$$3 = -5x$$

$$-\frac{3}{5} = x$$

$$16^x = \frac{1}{\sqrt[4]{2}}$$

$$16^x = \frac{1}{2^{1/4}}$$

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

$$\frac{4x}{4} = \frac{-1/4}{4}$$

$$x = -\frac{1}{16}$$

Sec 4.4
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1-22 odds

Solutions to 4.4.1 (1-22 odds)

1. 6

3. 3

5. 3

7. 2

9. $\frac{3}{5}$

11. $\frac{3}{2}$

13. 4

15. 5

17. $-\frac{1}{4}$

19. 13

21. -2