

## Homework:

### Solving Exponential Relationships and Table of Values

pg 243 # 1, 2 + from the questions below #9, 10a, 11, 12acegi

9. Solve each equation.

a) $2^{x+1} = 4$	b) $2^{x-1} = 8$	c) $3^{x-5} = 9$	d) $5^{x+3} = 25$
e) $4^{x+2} = 16$	f) $2^{2x+1} = 8$	g) $3^{2x-1} = 9$	h) $9^{1-2x} = 81$

10. a) Solve each equation.

i) $4^x = 8^{x+3}$	ii) $4^x = 8^{x+2}$	iii) $4^x = 8^{x+1}$	iv) $4^x = 8^x$
v) $4^x = 8^{x-1}$	vi) $4^x = 8^{x-2}$	vii) $4^x = 8^{x-3}$	viii) $4^x = 8^{x-4}$

b) Choose one equation from part a. Explain how you solved the equation.

11. **Thinking/Inquiry/Problem Solving** Consider the equation  $8^{x-2} = 64^{x+1}$ . Solve the equation in two different ways.

12. Solve each equation.

a) $2^{2x} - 9(2^x) + 8 = 0$	b) $3^{2x} - 12(3^x) + 27 = 0$
c) $2^{2x} - 2(2^x) - 8 = 0$	d) $4^{2x} - 15(4^x) - 16 = 0$
e) $2^{2x} - 18(2^x) + 32 = 0$	f) $3^{2x} + 3^x - 2 = 0$
g) $3^{2x} - 6(3^x) + 9 = 0$	h) $4^{2x} - 17(4^x) + 16 = 0$
i) $4^{2x} - 16 = 0$	

Answers

9. a) 1	b) 4	c) 7	d) -1	e) 0	f) 1	g) $\frac{3}{2}$	h) $-\frac{1}{2}$	i) 0	ii) -3	iii) 9	iv) 12
10. a) -9	b) -6	c) -3	d) -2	e) 3	f) 6	g) 9	h) 12	i) 15	j) 18	k) 21	l) 24
11. -4											
12. a) x = 3, 0	b) x = 2, 1	c) x = 2, 1	d) x = 2	e) x = 4, 1	f) x = 0	g) x = 1	h) x = 2, 0	i) x = 1	j) x = 1	k) x = 1	l) x = 1

## Homework:

### Solving Exponential Relationships and Table of Values

pg 243 # 1, 2 + from the questions below #9, 10a, 11, 12acegi

9. Solve each equation.

a) $2^{x+1} = 4$	b) $2^{x-1} = 8$	c) $3^{x-5} = 9$	d) $5^{x+3} = 25$
e) $4^{x+2} = 16$	f) $2^{2x+1} = 8$	g) $3^{2x-1} = 9$	h) $9^{1-2x} = 81$

10. a) Solve each equation.

i) $4^x = 8^{x+3}$	ii) $4^x = 8^{x+2}$	iii) $4^x = 8^{x+1}$	iv) $4^x = 8^x$
v) $4^x = 8^{x-1}$	vi) $4^x = 8^{x-2}$	vii) $4^x = 8^{x-3}$	viii) $4^x = 8^{x-4}$

b) Choose one equation from part a. Explain how you solved the equation.

11. **Thinking/Inquiry/Problem Solving** Consider the equation  $8^{x-2} = 64^{x+1}$ . Solve the equation in two different ways.

12. Solve each equation.

a) $2^{2x} - 9(2^x) + 8 = 0$	b) $3^{2x} - 12(3^x) + 27 = 0$
c) $2^{2x} - 2(2^x) - 8 = 0$	d) $4^{2x} - 15(4^x) - 16 = 0$
e) $2^{2x} - 18(2^x) + 32 = 0$	f) $3^{2x} + 3^x - 2 = 0$
g) $3^{2x} - 6(3^x) + 9 = 0$	h) $4^{2x} - 17(4^x) + 16 = 0$
i) $4^{2x} - 16 = 0$	

Answers

9. a) 1	b) 4	c) 7	d) -1	e) 0	f) 1	g) $\frac{3}{2}$	h) $-\frac{1}{2}$	i) 0	ii) -3	iii) 9	iv) 12
10. a) -9	b) -6	c) -3	d) -2	e) 3	f) 6	g) 9	h) 12	i) 15	j) 18	k) 21	l) 24
11. -4											
12. a) x = 3, 0	b) x = 2, 1	c) x = 2, 1	d) x = 2	e) x = 4, 1	f) x = 0	g) x = 1	h) x = 2, 0	i) x = 1	j) x = 1	k) x = 1	l) x = 1