

**Lesson 1.1 Review & Refresh**

Write the product using exponents.

1.  $7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 \cdot 7$   
 $7^7$

2.  $6 \cdot 6 \cdot 6 \cdot 3 \cdot 3 \cdot 3 \cdot 3$   
 $6^3 \cdot 3^4$

3. On a flash drive, 800 megabytes out of 1000 megabytes are used. Write the amount occupied as a percent.

$\frac{800}{1000} = 0.8$  **80%**

~~4.~~ You have piano lessons every 7 days, swimming lessons every 2 days, and chores every 6 days. You did all three things today. When will you have all 3 activities again?  
 42 days

Evaluate the expression. \*if number is not in parenthesis, stays negative

5.  $13^2$   
 169

6.  $-4^4$   
 -256

7.  $-10^2$   
 -100

8.  $1^8$   
 1

9. A container holds 500 fluid ounces of water. Each glass holds  $6\frac{1}{5}$  fluid ounces.

a. How many glasses are filled?

$500 \div 6.2 = 80.64$  **80 glasses**

~~b.~~ How many fluid ounces are left over?

$6.2 \cdot 80 = 496$  **4 fl oz**  
 $500 - 496 = 4$

10. You have given away 48 toy cars. You have 94 remaining. Write and solve an equation to find the number of toy cars you started with.

$x + 48 = 94$

11. The expenses  $E$  (in millions of dollars) of a company are represented by the equation  $E = 0.1x^2 + 1$  where  $x$  is the number of years after opening.

a. What are the expenses for year 1?

$0.1(1)^2 + 1 = 0.1(1) + 1 = 1.1$  **\$1.1 million**

b. What is the difference in expenses between year 3 and year 4?

$0.1(3)^2 + 1 = 1.9$  million  
 $0.1(4)^2 + 1 = 2.6$  million  
 $2.6 - 1.9 = 0.7$   
**\$700,000**

**Lesson 1.1**

**Review & Refresh (continued)**

PEMDAS

Evaluate the expression.

12.  $7 + 4 \cdot 3^2$

$7 + 4 \cdot 9$   
 $7 + 36$   
**43**

13.  $15^2 - 10^2 \div 5$

$225 - 100 \div 5$   
 $225 - 20$   
**205**

14.  $\frac{1}{2}(8^2 - 24)$

$\frac{1}{2}(64 - 24)$   
 $\frac{1}{2}(40)$   
**20**

15.  $-5^3 - 20 \div 10$

$-125 - 2$   
**-127**

16.  $-6(16 - 4^3)$

$-6(16 - 64)$   
 $-6(-48)$   
**288**

17.  $-5 + 12^2 \div 6 + 20$

$-5 + 144 \div 6 + 20$   
 $-5 + 24 + 20$   
**39**

18. You have 1000 cards. You sell them in packs of 5.

a. Write the expression that represents the number of cards remaining after  $p$  packs are sold.

$1000 - 5p$

b. How many cards are left after selling 38 packs?

$1000 - 5(38)$   
 $1000 - 190$   
**810**

19. The ratio of two numbers is 3 : 7. What are the numbers if their sum is 90?

$x + y = 90$   
 $y = \frac{3}{7}x$   
 $x + \frac{3}{7}x = 90$   
**27 and 63**

20. A flag is in the shape of a triangle with a base of 24 feet and a height of 18 feet. What is the area of the triangle?

$A = \frac{1}{2}bh$   
 $A = 216 \text{ ft}^2$

**Lesson 1.1**

**Self-Assessment**

Use the scale to rate your understanding of the learning target and the success criteria.

1 I don't understand yet.

2 I can do it with help.

3 I can do it on my own.

4 I can teach someone else.

	Rating	Date
<b>1.1 Exponents</b>		
<b>Learning Target:</b> Use exponents to write and evaluate expressions.	1 2 3 4	
I can explain what an exponent is.	1 2 3 4	
I can evaluate expressions involving powers.	1 2 3 4	
I can use exponents to solve real-life problems.	1 2 3 4	