



**THIRD SPACE  
LEARNING**

# Multiplying Exponents Worksheet

Algebra

**Grades 6 to 8**

## Skill Questions

Name: .....

Date: .....

1 Evaluate:  $3^2 \bullet 3^2$

Answer

2 Simplify:  $x \bullet x^3$

Answer

3 Simplify:  $(2x^3)(4x^5)$

Answer

4 Evaluate:  $(-4)^2 - 4^2$

Answer

5 Simplify:  $(x^4)(-5x^3)(2x^2)$

Answer

## Multiplying Exponents Worksheet | Grades 6 to 8

6 Simplify:  $(2x^3y^2)^2$

Answer

7 Simplify:  $(4x^2)^3 (2x)^2$

Answer

8 Simplify:  $(-4ab)^2(a^3b^4)$

Answer

9 Simplify:  $(-2x^2y^3)^2 \bullet (-x)^3$

Answer

10 Simplify:  $(-3a^2b^4)^3(a^4)$

Answer

## Applied Questions

- 11 A rectangular prism has dimensions that are represented by  $3x^2$  meters by  $4x$  meters by  $5x^3$  meters. What is the volume of the prism?

Answer

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- 12 Renie simplifies the expression  $(-4x^2)^3$  to be  $64x^5$ .  
Is she correct or incorrect? If she is incorrect, simplify the expression correctly.

Answer

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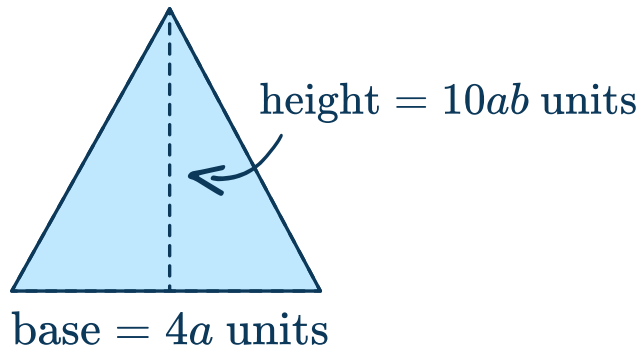
- 13 The area of a field is represented by the expression  $9x^4$  square meters. If the length of one side of the field is represented by  $3x^2$  meters, what is the width of the field?

Answer

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14



Find the area of the triangle. Express the answer as an algebraic expression.

Answer

15

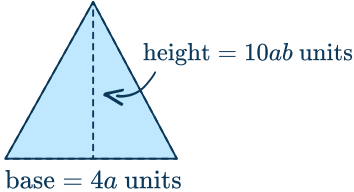
A garden has rows of shrubs, with each row containing  $3x^2$  shrubs. If there are  $4x^3$  rows of shrubs, how many shrubs are there in total?

Answer

# Answers

Question number	Question	Answers	Standard
1	Evaluate: $3^2 \bullet 3^2$	81	8.EE.A.1
2	Simplify: $x \bullet x^3$	$x^4$	8.EE.A.1
3	Simplify: $(2x^3)(4x^5)$	$8x^8$	8.EE.A.1
4	Evaluate: $(-4)^2 - 4^2$	0	8.EE.A.1
5	Simplify: $(x^4)(-5x^3)(2x^2)$	$-10x^9$	8.EE.A.1
6	Simplify: $(2x^3y^2)^2$	$4x^6y^4$	8.EE.A.1
7	Simplify: $(4x^2)^3(2x)^2$	$256x^8$	8.EE.A.1
8	Simplify: $(-4ab)^2(a^3b^4)$	$16a^5b^6$	8.EE.A.1
9	Simplify: $(-2x^2y^3)^2 \bullet (-x)^3$	$-4x^7y^6$	8.EE.A.1
10	Simplify: $(-3a^2b^4)^3(a^4)$	$-27a^{10}b^{12}$	8.EE.A.1
11	A rectangular prism has dimensions that are represented by $3x^2$ meters by $4x$ meters by $5x^3$ meters. What is the volume of the prism?	$60x^6$ cubic meters	8.EE.A.1
12	Renie simplifies the expression $(-4x^2)^3$ to be $64x^5$ . Is she correct or incorrect? If she is incorrect, simplify the expression correctly.	Renie is incorrect. The correct simplified answer is: $-64x^6$	8.EE.A.1

## Multiplying Exponents Worksheet | Grades 6 to 8 | Answers




Question number	Question	Answers	Standard
13	The area of a field is represented by the expression $9x^4$ square meters. If the length of one side of the field is represented by $3x^2$ meters, what is the width of the field?	$3x^2$ meters	8.EE.A.1
14	 <p>Find the area of the triangle. Express the answer as an algebraic expression.</p>	$A = \frac{1}{2}bh$ $A = \frac{1}{2}(4a)(10ab)$ $A = 20a^2b \text{ units squared}$	8.EE.A.1
15	A garden has rows of shrubs, with each row containing $3x^2$ shrubs. If there are $4x^3$ rows of shrubs, how many shrubs are there in total?	$12x^5$ shrubs	8.EE.A.1

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