

**MENU      Grade 9**

<b>File Name</b>	<b>TEKS</b>
1. <b>Grade 9 Add and Subtract Replacement Sets</b>	<b>b3A</b>
2. <b>Grade 9 Add and Subtract Unknowns</b>	<b>b3A</b>
3. <b>Grade 9 Add Subtract Solve</b>	<b>b3A; b4A</b>
4. <b>Grade 9 Algebraic Expressions</b>	<b>b3A</b>
5. <b>Grade 9 Associative Property</b>	<b>b4B</b>
6. <b>Grade 9 Commutative and Associative Properties II</b>	<b>b4B</b>
7. <b>Grade 9 Commutative and Associative Properties</b>	<b>b4B</b>
8. <b>Grade 9 Equivalent Fractions</b>	<b>b4A</b>
9. <b>Grade 9 Evaluate and Simplify</b>	<b>b3A</b>
10. <b>Grade 9 Evaluate and Solve</b>	<b>b3A</b>
11. <b>Grade 9 Expressions Powers Equations</b>	<b>b3A; b4A</b>
12. <b>Grade 9 Finding Unknowns</b>	<b>b3A</b>
13. <b>Grade 9 Mixed Practice</b>	<b>b3A</b>
14. <b>Grade 9 Mixed Problems with Equations</b>	<b>b3a; b4A</b>
15. <b>Grade 9 Multiply and Add</b>	<b>b3A</b>
16. <b>Grade 9 Perimeter and Area</b>	<b>b3A; b4A</b>
17. <b>Grade 9 Simplify and Evaluate</b>	<b>b3A; b4B</b>
18. <b>Grade 9 Solve Add Subtract Divide</b>	<b>b3A</b>
19. <b>Grade 9 Solve Equations Division</b>	<b>b3A; b4A</b>
20. <b>Grade 9 Solve for Unknown</b>	<b>b3A</b>
21. <b>Grade 9 Stopping Distance</b>	<b>b3A; b4A</b>
22. <b>Grade 9 Writing and Solving Equations</b>	<b>b3A; b4A</b>

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# Grade 9

## Evaluate and Simplify

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Write an equivalent expression using the Commutative or Associative Property.

**S/N: 599**

1.  $e + 32$

2.  $k + 12$

3.  $(i + z) + 35$

4.  $(d + z) + 31$

Use front-end estimation to estimate the value of the variable.

5.  $837 + 914 + 797 = q$

6.  $651 + 340 + 181 = t$

7. Mr. and Mrs. Robinson are driving to Buffalo and their entire trip is 1,597 miles. The odometer shows they have traveled 801 miles. About how many miles are they from Buffalo? Round to the nearest hundred.

8. Mr. and Mrs. Johnson are driving to Boston and their entire trip is 1,164 miles. The odometer shows they have traveled 642 miles. About how many miles are they from Boston? Round to the nearest hundred.

9. On Thursday, Bob shipped 50 more orders for his mail-order company. He has now shipped 508 orders for the month. How many orders had he shipped before Thursday?

10. On Thursday, Bob shipped 92 more orders for his mail-order company. He has now shipped 278 orders for the month. How many orders had he shipped before Thursday?

Evaluate

11.  $\frac{e + 28}{y}$  for  $e = 7$  and  $y = 11$

12.  $\frac{g + 27}{x}$  for  $g = 13$  and  $x = 6$

Simplify

13.  $48 + 21 \cdot 46 + 27$

14.  $11 + 41 \cdot 46 + 27$

Write an algebraic expression.

15. 27 less than one-fourth a number

16. 21 less than one-eighth a number

17. 25 times the sum of a number and 26

18. 56 times the sum of a number and 82

19. 55 times the sum of a number and 76

20. 46 times the sum of a number and 80

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

13. \_\_\_\_\_

14. \_\_\_\_\_

15. \_\_\_\_\_

16. \_\_\_\_\_

17. \_\_\_\_\_

18. \_\_\_\_\_

19. \_\_\_\_\_

20. \_\_\_\_\_

# Grade 9

## Evaluate and Simplify

Teacher Key

S/N: 599

TEKS -b4B, b3A

1. 
$$\begin{array}{r} e + 32 \\ 32 + e \end{array}$$

2. 
$$\begin{array}{r} k + 12 \\ 12 + k \end{array}$$

3. 
$$\begin{array}{r} ( i + z ) + 35 \\ i + ( z + 35 ) \end{array}$$

4. 
$$\begin{array}{r} ( d + z ) + 31 \\ d + ( z + 31 ) \end{array}$$

5. 
$$\begin{array}{r} 837 + 914 + 797 = q \\ 800 + 900 + 800 = q \\ q = 2,500 \end{array}$$

6. 
$$\begin{array}{r} 651 + 340 + 181 = t \\ 700 + 300 + 200 = t \\ t = 1,200 \end{array}$$

7. 
$$\begin{array}{r} 1,597 - 801 \\ 1,600 - 800 \\ \text{about } 800 \text{ miles} \end{array}$$

8. 
$$\begin{array}{r} 1,164 - 642 \\ 1,200 - 600 \\ \text{about } 600 \text{ miles} \end{array}$$

9. 
$$\begin{array}{r} 508 - 50 \\ 458 \text{ shipped before} \end{array}$$

10. 
$$\begin{array}{r} 278 - 92 \\ 186 \text{ shipped before} \end{array}$$

11. 
$$\begin{array}{r} \frac{e + 28}{y} \\ \frac{7 + 28}{11} = \frac{35}{11} \\ = 3.2 \end{array} \quad \text{for } e = 7 \text{ and } y = 11$$

12. 
$$\begin{array}{r} \frac{g + 27}{x} \\ \frac{13 + 27}{6} = \frac{40}{6} \\ = 6.7 \end{array} \quad \text{for } g = 13 \text{ and } x = 6$$

13. 
$$\begin{array}{r} 48 + 21 \cdot 46 + 27 \\ 48 + 966 + 27 \\ = 1,041 \end{array}$$

14. 
$$\begin{array}{r} 11 + 41 \cdot 46 + 27 \\ 11 + 1,886 + 27 \\ = 1,924 \end{array}$$

15. 
$$\frac{1}{4}n - 27$$

16. 
$$\frac{1}{8}n - 21$$

17. 
$$25(n + 26)$$

18. 
$$56(n + 82)$$

19. 
$$55(n + 76)$$

20. 
$$46(n + 80)$$

# Grade 9

## Expressions/Powers/Equations

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Write an algebraic expression.

S/N: 145

1. eight times the number  $z$

1. \_\_\_\_\_

2. four times the number  $b$

2. \_\_\_\_\_

3. nine times the number  $a$

3. \_\_\_\_\_

4. two times the number  $l$

4. \_\_\_\_\_

5. nine times the number  $c$

5. \_\_\_\_\_

Write as a numerical expression

6. 15 less than 76

6. \_\_\_\_\_

7. 55 increased by 19

7. \_\_\_\_\_

8. 71 increased by 75

8. \_\_\_\_\_

9. 60 increased by 65

9. \_\_\_\_\_

10. 32 less than 68

10. \_\_\_\_\_

Solve and check.

11.  $24n = 336$

11. \_\_\_\_\_

12.  $15q = 255$

12. \_\_\_\_\_

13.  $11g = 77$

13. \_\_\_\_\_

14.  $16b = 32$

14. \_\_\_\_\_

15.  $21d = 84$

15. \_\_\_\_\_

Simplify.

16.  $22 \cdot 68$

16. \_\_\_\_\_

17.  $55 \cdot 49$

17. \_\_\_\_\_

18.  $98 \cdot 64$

18. \_\_\_\_\_

19.  $79 \cdot 212$

19. \_\_\_\_\_

20.  $108 \cdot 27$

20. \_\_\_\_\_

# Grade 9

## Expressions/Powers/Equations

### Teacher Key

S/N: 145

TEKS -b3A, b4A

Write an algebraic expression.

1.  $8z$
2.  $4b$
3.  $9a$
4.  $2l$
5.  $9c$

Write as a numerical expression

6.  $76 - 15 = 61$
7.  $55 + 19 = 74$
8.  $71 + 75 = 146$
9.  $60 + 65 = 125$
10.  $68 - 32 = 36$

Solve and check.

11.  $n = 14$
12.  $q = 17$
13.  $g = 7$
14.  $b = 2$
15.  $d = 4$

Simplify.

16.  $4 \cdot 1,679,616 = 6,718,464$
17.  $3,125 \cdot 262,144 = 819,200,000$
18.  $43,046,721 \cdot 1,296 = 55,788,550,416$
19.  $40,353,607 \cdot 4,096 = 165,288,374,272$
20.  $100,000,000 \cdot 128 = 12,800,000,000$