

Adding Positive and Negative Numbers

Find each sum.

1) $(-7) + 9$

2) $(-8) + (-1)$

3) $(-1) + 5$

4) $(-6) + 12$

5) $(-8) + (-5)$

6) $11 + (-2)$

7) $49 + (-15)$

8) $(-47) + 30$

9) $49 + (-27)$

10) $(-29) + 9$

11) $43 + (-1)$

12) $10 + (-2) + 1$

13) $(-2) + 11 + 4$

14) $12 + 7 + (-4)$

15) $(-7) + 3 + 9$

16) $(-1) + 11 + 5$

17) $2 + 10 + (-10) + 10$

18) $10 + (-11) + 5 + (-5)$

19) $2 + 6 + (-7) + 10$

20) $(-5) + (-8) + (-2) + 1$

21) $(-6.8) + (-1.9)$

22) $2.489 + (-4.3)$

23) $(-4.7) + 5.7$

24) $(-5) + (-7.1)$

25) $(-3.9) + 7.1 + (-7.8)$

26) $(-4.5) + 4.9 + 3.4$

27) $(-2.1) + (-1) + (-7.6)$

28) $0.85 + (-2.4) + 4.5$

29) $\frac{5}{3} + \left(-\frac{7}{5}\right)$

30) $\frac{8}{5} + \left(-\frac{1}{3}\right)$

31) $\left(-\frac{1}{3}\right) + \left(-\frac{3}{5}\right)$

32) $\frac{1}{2} + \left(-\frac{5}{3}\right)$

33) $2 + \left(-\frac{1}{4}\right)$

34) $\left(-\frac{1}{4}\right) + \left(-\frac{3}{2}\right)$

Multiplying and Dividing Positives and Negatives

Date _____ Period _____

Find each quotient.

1) $\frac{10}{5}$

2) $\frac{-24}{12}$

3) $\frac{-20}{-2}$

4) $\frac{-300}{-20}$

5) $\frac{65}{5}$

6) $\frac{-66}{-6}$

7) $\frac{75}{-15}$

8) $\frac{-56}{-14}$

9) $\frac{102}{-17}$

10) $\frac{-72}{-4}$

11) $153 \div 17$

12) $12 \div -3$

13) $48 \div 6$

14) $-120 \div -20$

15) $306 \div 18$

16) $-65 \div 13$

17) $-85 \div -17$

18) $128 \div -16$

19) $-180 \div 15$

20) $234 \div -13$

Find each product.

21) -11×9

22) -7×-12

23) -8×-11

24) -6×4

25) -3×-11

26) -5×-9

27) 9×-7

28) -9×-3

29) 12×-12

30) 11×-6

31) $6 \times -5 \times 3$

32) $6 \times -1 \times 2$

33) $8 \times -6 \times -3$

34) $-3 \times 6 \times -6$

35) $(3)(3)(-1)(3)$

36) $(-3)(3)(-3)(-3)$

Order of Operations

Evaluate each expression.

1) $3(6 + 7)$

2) $5 \times 3 \times 2$

3) $72 \div 9 + 7$

4) $2 + 7 \times 5$

5) $9 + 8 - 7$

6) $9 - 32 \div 4$

7) $5(10 - 1)$

8) $48 \div (4 + 4)$

9) $20 \div (4 - (10 - 8))$

10) $40 \div 4 - (5 - 3)$

11) $9 + 9 + 6 - 5$

12) $(5 + 16) \div 7 - 2$

13) $7 + 10 \times 5 + 10$

14) $(6 + 25 - 7) \div 6$

15) $(6 - 4) \times 49 \div 7$

16) $(7 \times 5) \div 5$

17) $\frac{43 - 1}{4 + 2} + 10$

18) $(8 + 5) \times \frac{35}{5} + 6$

19) $\frac{27}{2 + 3 + 4} + 3$

20) $\frac{45}{8(5 - 4) - 3}$

21) $8 \times \frac{15}{5} - (5 + 9)$

22) $2 \times 7 - \frac{10}{9 - 4}$

23) $(10 + 2 - 2) \times 6 - 1$

24) $\frac{49}{7} \times \frac{60}{2 \times 5}$

25) $(2 + 6 \times 2 + 2 - 4) \times 2$

26) $\frac{8}{5 - 1} \times (3 + 6) \times 3$

Factors and Factorization

List all positive factors of each.

1) 30

2) 22

3) 28

4) 16

5) 60

6) 87

7) 68

8) 99

9) 85

10) 72

11) 96

12) 74

13) 86

14) 75

Write the prime-power factorization of each.

15) 48

16) 35

17) 46

18) 40

19) 100

20) 66

21) 75

22) 72

23) 65

24) 81

25) 80

26) 54

27) 972

28) 660

Name _____

Date _____

Factors of an Integer - Independent Practice Worksheet

Complete all the problems.

1. Find the factors of 12.

2. Find the factors of 27.

3. Find the factors of 8.

4. Find all the factors of 32.

5. Find all the factors of 45.

6. Find all the factors of 25.

7. Find the greatest common factor of 28 and 126.

8. Find the greatest common factor of 45 and 105.

9. A number has many factors including 5 and 3. What other number must also be a factor of the same number?

10. A number has many factors including 3 and 8. What other number must also be a factor of the same number?



Name: _____

Score: _____

Prime and Composite Worksheet 2



You multiply **factors** together to get another number.

Prime numbers are the numbers that have only two **factors**.

What are the factors of 2? 1 and 2

Because 2 has only two **factors**, it is a **prime number**.

Composite numbers are the numbers that have more than two **factors**.

What are the factors of 8? 1, 2, 4, and 8

Because 8 has more than two factors, it is a **composite number**.

Number	List of Factors	Prime or Composite
34		
20		
14		
5		
48		
45		
35		
68		
57		
50		
11		
54		
7		
12		

Finding the Prime Factorization of a Whole Number

Write the prime-power factorization of each.

1) 25

2) 26

3) 16

4) 22

5) 27

6) 18

7) 21

8) 24

9) 30

10) 20

11) 50

12) 66

13) 49

14) 69

15) 62

16) 42

17) 74

18) 52

19) 68

20) 60

21) 69

22) 63

23) 39

24) 44

25) 66

26) 56

27) 60

28) 45

29) 72

30) 55

Powers

The number 5^2 is read "five squared" or "five to the second power".
The 5 is called a base number. The 2 is called an exponent.

Ex. 5^3 is "five cubed" or "five to the third"

5^4 is "five to the fourth"

5^5 is "five to the fifth"

5^6 is "five to the sixth"

The exponent tells you to multiply the base number times itself the number the exponent indicates.

5^2 means 5 times itself or $5 \cdot 5 = 25$

Note: Please be careful not to confuse this with $5 \cdot 2$

Ex. $5^3 = 5 \cdot 5 \cdot 5 = 125$

$2^4 = 2 \cdot 2 \cdot 2 \cdot 2 = 16$

$.3^4 = .3 \cdot .3 \cdot .3 \cdot .3 = .027$

$$\left(\frac{2}{3}\right)^2 = \frac{2}{3} \cdot \frac{2}{3} = \frac{4}{9}$$

$$\left(\frac{1}{2}\right)^4 = \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{16}$$

$$r^2 = r \times r$$

Square Roots

The mathematical symbol for square root is $\sqrt{\quad}$

To find the square root of 25 look for a number that when multiplied by itself will result in 25. Therefore the square root of 25 is 5 because 5×5 is 25. $\sqrt{25} = 5$

Ex. $\sqrt{16} = 4$ $\sqrt{9} = 3$ $\sqrt{4} = 2$ $\sqrt{100} = 10$ $\sqrt{49} = 7$

All of these numbers are called "perfect squares" because there is one whole number (integer) that is the result of finding the square root.

What if you wanted to find the square root of 13?

We suggest you use your calculator. Depending on the make and model of your calculator, you may have to press the $\sqrt{\quad}$ symbol first then the number or the number first then the $\sqrt{\quad}$ symbol.

Ex. $\sqrt{13} = 3.60551275$ $\sqrt{37} = 6.08276253$
 $\sqrt{8} = 2.828427125$ $\sqrt{325} = 18.02775638$

Note: Be aware of rounding instructions when you solve a square root.

There is a method for finding non-perfect square roots that you can find in the MLC (KC-6). You decide if it's worth your time.

Powers and Roots Practice

1. 23^2

2. $\frac{1^4}{3}$

3. $5^2 + 4^3$

4. $3^4 + 2^2$

5. $.1^3$

6. $\frac{2^2}{4^2}$

7. $.05^3$

8. $\frac{(.15)^2}{(.5)^2}$

9. 1^{23}

10. $\frac{3^3 - 2^1}{2^2} \times \frac{2^3}{5^2}$

11. $\sqrt{16}$

12. $\sqrt{25}$

13. $\sqrt{49}$

14. $\sqrt{649}$

15. $\sqrt{979}$

16. $\sqrt{581.54}$

17. $\sqrt{631}$

18. $\sqrt{.064}$

19. The square root of 25 is _____.

20. Four squared minus 2 cubed is _____.

21. 6^8

22. 5^3

23. $.12^3$

24. $5^2 + 2^2$

25. $.13^2$

26. $4^5 \times 2^1$

27. $\frac{(.12)^3}{1^4}$

28. $\frac{3^4}{8}$

29. $(10^2)^4$

30. $\frac{4^2 - 3^2}{3^3} \times \frac{4^3}{56^1}$

31. $\frac{4^2}{6}$

32. $.46^2$

33. $\sqrt{32}$

34. $\sqrt{12}$

35. $\sqrt{198}$

36. $\sqrt{78}$

37. $\sqrt{144}$

38. $\sqrt{652}$

39. One fourth cubed is _____.

40. Half of the square root of 36 is _____.

41. 4^5

42. 18^2

43. $.9^2$

44. $3^3 + 2^5$

45. $.15^2$

46. $\frac{2^2}{3}$

47. $7^2 \times 3^4$

48. $(12^2)^1$

49. $6^2 - 2^3$

50. $\frac{3^2 - 4^1}{5^2} \times \frac{5^2}{2^3}$

51. $\frac{(.14)^2}{(.4)^3}$

52. $\frac{8^2}{4}$

53. $\sqrt{69}$

54. $\sqrt{56}$

55. $\sqrt{190}$

56. $\sqrt{12}$

57. $\sqrt{784}$

58. $\sqrt{982}$

59. Eight to the fourth power is _____.

60. Three to the fifth power multiplied by six is _____.

61. $(.23)^2$

62. 67^2

63. 12^2

64. $4^2 \times 7^2$

65. $.019^3$

66. $\frac{1^4}{7}$

67. $.8^3$

68. $2^8 + 5^4$

69. $\frac{3^5}{6}$

70. $\frac{6^3 - 4^3}{2} \times \frac{9^2}{3^3}$

71. $(11^2)^4$

72. $.000006^2$

73. $\sqrt{985}$

74. $\sqrt{78}$

75. $\sqrt{.00008}$

76. $\sqrt{9.89}$

77. $\sqrt{27.89}$

78. $\sqrt{9104.6}$

79. Three cubed to the fourth power is _____.

80. Five squared plus three cubed is _____.

Exponents and Multiplication

Date _____ Period _____

Simplify. Your answer should contain only positive exponents.

1) $4^2 \cdot 4^2$

2) $4 \cdot 4^2$

3) $3^2 \cdot 3^2$

4) $2 \cdot 2^2 \cdot 2^2$

5) $2n^4 \cdot 5n^4$

6) $6r \cdot 5r^2$

7) $2n^4 \cdot 6n^4$

8) $6k^2 \cdot k$

9) $5b^2 \cdot 8b$

10) $4x^2 \cdot 3x$

11) $6x \cdot 2x^2$

12) $6x \cdot 6x^3$

13) $7v^3 \cdot 10u^3v^5 \cdot 8uv^3$

14) $9xy^2 \cdot 9x^5y^2$

15) $6m^3n^3 \cdot 8m^2n^3$

16) $6x^2 \cdot 6x^3y^4$

17) $7u^2v^5 \cdot 9uv^3$

18) $uv \cdot 4uv^5$

19) $10xy^3 \cdot 8x^5y^3$

20) $3u^4v^5 \cdot 7u^2v^3$

21) $(2x^2)^2$

22) $(p^4)^4$

23) $(k^3)^4$

24) $(7k)^2$

25) $(x^2)^3$

26) $(2b^2)^4$

Exponents and Division

Simplify. Your answer should contain only positive exponents.

1) $\frac{5^4}{5}$

2) $\frac{3}{3^3}$

3) $\frac{2^2}{2^3}$

4) $\frac{2^4}{2^2}$

5) $\frac{3r^3}{2r}$

6) $\frac{7k^2}{4k^3}$

7) $\frac{10p^4}{6p}$

8) $\frac{3b}{10b^3}$

9) $\frac{8m^3}{10m^3}$

10) $\frac{7n^3}{2n^5}$

11) $\frac{2n^2}{n}$

12) $\frac{8x^3}{10x^5}$

13) $\frac{12x^3}{9y^8}$

14) $\frac{14x^4y^7}{6x^5y^4}$

15) $\frac{11u^4}{17u^7v^9}$

16) $\frac{4y^4}{14yx^8}$

17) $\frac{12yx^4}{10yx^8}$

18) $\frac{18x^8y^8}{10x^3}$

19) $\frac{5n^8}{20n^8}$

20) $\frac{16yx^4}{9x^8y^2}$

Powers of Products and Quotients

Simplify. Your answer should contain only positive exponents.

1) $(3a^2)^3$

2) $(2n^4)^4$

3) $(3x^4)^4$

4) $(6b^2)^2$

5) $(7y^4)^2$

6) $(3ab^4)^4$

7) $(2x^4y^4)^3$

8) $(5mn^3)^3$

9) $(x^2y^2)^2$

10) $(6yx^4)^2$

11) $(u^4v^3)^2$

12) $(2x^4y^4)^4$

13) $(3x^2 \cdot 2x^2)^2$

14) $(2p^3 \cdot 2p)^2$

15) $(4n^3 \cdot n^2)^2$

16) $(3x \cdot 2x)^2$

17) $(4x^4 \cdot x^4)^3$

18) $(4n^4 \cdot n)^2$