

Algebra 7

Review

1.1 - 1.7, 2.1 - 2.4

No Calculator!! Show your work!

Name: _____

Period: _____

Evaluate the following expressions:

1) $24 \div -4 \cdot 2 - (2 - 3)^2$

2) $|12 - 3 \cdot 7| \cdot (-2)$

3) $(-12 - 3 + 4) \cdot -2 - 3$

4) $[x^2 - (4 - x)^2] \div x^3, x = -2$

5) $\frac{y - x^2}{3x - y^2}$ when $x = -4, y = -2$

6) $-x^2 - 3x + 5$ when $x = -3$

7) -2^4

8) $(-2)^4$

Simplify each expression completely:

9) $(3x)(-8y)(z)$

10) $-4x - 3y - x + 7y - 5$

11) $-4(2 - x) + 3x^2 - 5x$

12) $-5\sqrt{40 - x} + 12$ when $x = 4$

Find each square root:

13) $\sqrt{\frac{25}{81}}$

14) $-\sqrt{\frac{1}{144}}$

Solve **and check** each of the following equations:

15) $\frac{2x-3}{4} = -2$

16) $4 - 2(-3 - x) = -2$

17) $\frac{2}{3}(9 - 6x) = 2x + 4$

18) $-6x - 3(x - 1) = 5x + 10$

- 19) There will be four tests in the first quarter of Algebra, and you have scored 85%, 87%, and 95% on the first three tests. What is the least you have to score on the fourth test to get an average of at least 90% overall?

Classify each real number. Write all classifications that apply:

21) -30

22) 2π

23) $\frac{5}{6}$

24) Write an algebraic expression or algebraic inequality for each of the following:

a) "8 less twice x " a) _____

b) "12 is less than five times a number" b) _____

c) "area of a rectangle which has one side four times larger than the other"

c) _____

Answers:

1) -13

2) -18

3) 19

4) 4

5) $\frac{9}{8}$

6) 5

7) -16

8) 16

9) $-24xyz$

10) $-5x + 4y - 5$

11) $3x^2 - x - 8$

12) -18

13) $\frac{5}{9}$

14) $-\frac{1}{12}$

15) $x = -2.5$

16) $x = -6$

17) $x = \frac{1}{3}$

18) $x = -\frac{1}{2}$

19) 93%

21) Rational \mathbb{Q} , Integer \mathbb{Z}

22) Irrational

23) Rational \mathbb{Q}

24a) $8 - 2x$

24b) $12 < 5x$

24c) $4x^2$