Prep Algebra 1 Name MID TERM REVIEW ID: 1

Chapter 1 Test

Date _____ Period ____

(4pts) Evaluate each expression. Circle Answer.

1) $6 + 8 + 4 - 3$

15

2) $11 - 7 - 2$

2

3) $4 \cdot 0 \cdot 4 \cdot 3$

0

4) $2 \cdot 5 \cdot 3 \cdot 2$

60

5) $\frac{72}{0}$

Undefined

6) $\frac{40}{8}$

5

7) $0 \div 13$

0

8) $50 \div 10$

5

9) 2^5

32

10) 5^2

25

(6pts) INSTRUCTIONS: CLEARLY SHOW WORK AND CIRCLE ANSWER.
Evaluate each expression. (3 operations)

11) $6 \div 6 \cdot 3 \cdot 6$

18

12) $5 - 3 \div (4 - 1)$

4

13) $(10 \div 5)^2 + 6$

10

14) $(13 - 4) \div (6 - 3)$

3

(6pts) Evaluate each using the values given. Clearly show work. Circle Answer.

15) $3x^2 - x$; use $x = 5$

70

16) $\frac{30 - 6x}{3}$; use $x = 2$

6

$\frac{30-6(2)}{3} \rightarrow \frac{30-12}{3} = \frac{18}{3}$

(6)

(4pts) How many terms are in each expression; and then list the terms

17) $-6x + 9$

2 $(-6x, 9)$

18) $6x^2 - 4x - 4$

3 $(6x^2, -4x, -4)$

↑ TERMS ARE SEPERATED BY +, −
FACTORS ARE SEPERATED BY MULT.

(2pts) For the following Exponential Expression,
the BASE=___5___; the EXPONENT=___4___.

19) 5^4
b=5, e=4

→ Write as a product of factors: $5 \cdot 5 \cdot 5 \cdot 5$ ← 4 factors

(2pts) DEFINITIONS - write a 1 sentence definition for the following

20) VARIABLE:

_____

21) EXPRESSION:

_____

_____

22) EVALUATE:
EVALUATE "EXPRESSIONS" VS SOLVE "EQUATIONS"

(4pts) BONUS: Evaluate each expression.

23) $((5 - 1) \cdot 2) \div (5 + 4 - 5)$

2

Prep Algebra 1 Name_____ ID: 1

Chapter 2 Review (circle final answers)

Date_____ Period____

Name the set or sets to which each number belongs. I=integer; R=rational; IRR=irrational

1) $\sqrt{98}$ IRR 9.9... (-7) Decimal never stops

2) $\sqrt{100}$ RAT, I (10) $\sqrt{1.44}$ = (1.2) → RAT

3) $\frac{30}{-2}$ I, RAT

4) $\frac{10}{4}$ Rat

5) Arrange numbers 1/2, π, -1, 0, $\sqrt{49}$, -2 , 5 in ascending order (least to greatest).

-2, -1 0, 1/2, π, 5, $\sqrt{49}$

(N) = Natural #'s START AT 1

(W) = Whole #'s 0, 1, 2, 3...

(I) = INTEGERS -2, -1, 0, 1, 2...

(Q) RAT # — Can be written as a fraction

(I) IRRAT #

(R) = Real Numbers

For the following expression, identify...

6) $x^2 + 4 + 7x - 4x - 5 - x$

Terms_____

terms: xx , 4, 7x, - 4x, -5, -x

Like terms TERMS WITH THE SAME VARIABLES RAISED TO THE SAME EXPONENTS.

like terms: 7x and -x ; 4 and -5

Coefficients Number before the variable

coefficients: 1, 7, -4,-1

Constant terms AKA NUMBERS

constant terms: 4, -5

INSTRUCTIONS: Evaluate each expression. CLEARLY SHOW WORK AND CIRCLE ANSWER.

Bars | | ABS VALUE TREAT AS ( )'S

7) $-4|-2|$ = -4(2) (-8)

8) $|-12 \div -4| = |3|$ (3)

TAKE THE OPPOSITE SIGN

9) -(-222) 222

10) -(59) (-59)

Find each sum. Show work. TIP ADD -#s +#'s

11) $(-8) + (-8) + 8 + 4$

-4 $-16+12 = (-4)$

12) $8 + 2 + (-1) + (-6)$

3

Find each difference. Write as addition problem.

13) $(-4) - 7 - (-3)$ $= -4 + (-7) + 3$

$= -11 + 3$

$= (-8)$

-8

14) $8 - (-2) - 2$

8

Evaluate each expression

15) $(-4)(3)(-1)(-3)$

3 NEGS → Product of odd # of Negatives IS NEGATIVE

-36

16) $(-2)(-4)(-1)(-1)$

VS EVEN # of NEGATIVES IS POSITIVE

$+8$

Evaluate each expression. Clearly show work.

17) $12 \div (-3) - (2 - 4)$

-2 $12 \div (-3) - (-2)$

$-4 - (-2)$

$-4 + 2 =$

-2

18) $-\frac{12}{4} + 6 - 12$

-9

PEMDAS

1. ( )'s IN → OUT
2. EXPONENTS
3. M/D L → R
4. A/S L → R

19) $2 - (8 \div 4)(4)$

-6 $2 - (2)(4)$

$2 - (8)$ OR $2 + (-8)$

-6

20) $\frac{-3 - 9}{2 - 5}$ → $\frac{-12}{-3}$

4

Simplify each expression. Write in standard form.

21) $-2(4x - 3)$

$-8x + 6$

22) $-(2x - 2)$

-1

$-2x + 2$

23) $-11n - 4 + 1 + 7n$

$-4n - 3$

24) $\frac{100x - 50}{-10} = \frac{100x}{-10} + \frac{-50}{-10} =$

$-10x + 5$

Simplify each expression. Clearly show work. Write expression in standard form.

25) $4 - 2(x - 6) = 4 - 2x + 12$

$-2x + 16$

26) $-4(7x + 2) - 8$

$-28x - 16$

27) $-2(-x - 3) - 8x$

$-6x + 6$

28) $2(7 - 4x) + 10x - 20$

$2x - 6$

29) Study Dividing Fractions

BONUS: Simplify the expression.

30) $-2(2x - 5) + 3(1 - 4x) = -4x + 10 + 3 - 12x =$

$-16x + 13$

Algebra 1

Name_____

Chapter 3 Midterm Review

Date_____ Period____

3.1 Quiz (Standard Alg.b - DNM)

Standard Alg.b - DNM... Solve. Show work clearly; circle solution; AND CHECK in the ORIGINAL equation.

1) skip

2) $-6 = x + 22$

$-22 \quad -22$

{x= –28}

$-28 = x$

$x = -28$

C: $-6 = (-28) + 22$

$-6 = -6$ ✓

3) $-45 = -5x$

{x= 9}

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

{ x= –60}

$\left(\frac{4}{1}\right)(-15) = \frac{x}{4}\left(\frac{4}{1}\right)$

$x = -60$

C: $-15 = \frac{-60}{4}$

$-15 = -15$ ✓

5) $x - (-18) = 38$

{20}

rewrite before Solving

$x + 18 = 38$

$-18 \quad -18$

$x = 20$

IN THE ORIG EQ

C: $20 - (-18) = 38$

$38 = 38$ ✓

6) $\frac{3}{5}n = -150$

{n= –250}

Mult both sides by the reciprocal + keep its sign

$\left(\frac{5}{3}\right)\frac{3}{5}N = -150\left(\frac{5}{3}\right)$

$N = -250$

C: $\frac{3}{5}(-250) = -150$

$-150 = -150$ ✓

3.2 Quiz

Standard Alg.b - DNM... Solve. Show work clearly; circle solution; AND CHECK in the ORIGINAL equation.

7) skip

8) $-7 = -\frac{x}{10}$

x=70

9) skip

10) skip

Standard Alg.b - PM... Solve. Show work clearly; circle solution; AND CHECK in the ORIGINAL equation.

11) $5 - 2x = 9$

{-2}

12) $-2x - 2 = -18$

{8}

2 STEP EQ's

1. UNDO +, − FIRST!!
2. UNDO X, ÷
3. Check IN ORIG EQ

13) $\frac{n}{8} - 3 = -4$

$+3 \quad +3$

{-8}

$8\left(\frac{N}{8}\right) = -1(8)$

$N = -8$

14) $2 = 3 - \frac{r}{9}$

$-3 \quad -3$

$-9(-1) = \left(\frac{R}{-9}\right)\cdot -9$

$R = 9$

Tip put Negative sign with the number

Tip $-\frac{R}{9} = \frac{-R}{9} = \frac{R}{-9}$

These are all EQUAL

Standard Alg.b - Meet... Solve AND CHECK multi-step linear equations with variables on both sides. Clearly show EACH STEP. Circle the solution.

15) $2x - 1 = 11 + 8x$

x={−2} c: -5=-5

16) skip

17) skip

18) skip

19) $4(x - 1) = 24 - 3x$

x={4} c: 12 = 12

20) skip

21) $8(x + 8) = -3(x - 3)$

x={−5} c: 24 = 24

22) $-2(5 + 7x) = 3(2 - 6x)$

x={4} c: -66 = -66

$8x + 64 = -3x + 9$

$+3x \quad +3x$

$11x + 64 = 9$

$-64 \quad -64$

$\frac{11x}{11} = \frac{-55}{11}$

$x = -5$

C: $8(-5+8) = -3(-5-3)$

$8(3) = -3(-8)$

$24 = 24$ ✓

Quiz 3.6

NAQ.b.2
Solve AND CHECK a proportion with a single variable. Clearly show work. Circle your answer.

23) $\frac{14}{2}=\frac{x}{10}$

x=70 c: 7=7

24) $\frac{2}{12}=\frac{13}{n}$

n=78 c: 1/6 = 1/6 or
c: .167 = .167

Solve Proportion

① Cross Multiply
② Divide

25) $\frac{2}{9}=\frac{12}{9x}$ n=6 c: 2/9 = 2/9 or
c: .222 = .222

$\frac{18x}{18}=\frac{108}{18}$

$X=6$

C: $\frac{2}{9}=\frac{12}{9(6)}$

$.222=\frac{12}{54}$

$.222=.222$ ✓

26) $\frac{6}{3}=\frac{4x}{14}$

x=7 c: 2=2

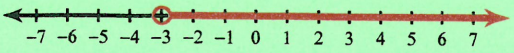
Algebra 1 Name_____ ID: 1

Chapter 6 Review

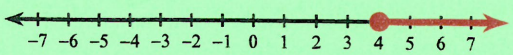
Date_____ Period____

STANDARD: ALG.c.1 (DNM) "Graph linear inequalities on a number line."

1) $-3 < x$

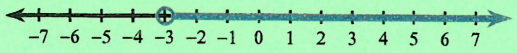


2) $k \geq 4$



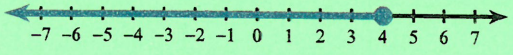
Write an inequality for each graph. Use the variable "X"

3)



$n > -3$

4)



$x \leq 4$

Write each as an algebraic expression.

5) w squared is less than or equal to 8

$w^2 \leq 8$

6) n cubed is greater than or equal to 8

$n^3 \geq 8$

7) the product of y and 5 is less than 16

$y \cdot 5 < 16$

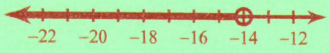
8) the sum of a and 7 is less than 50

$a + 7 < 50$

Solve each 1-STEP inequality and GRAPH its solution.

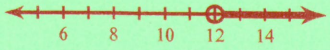
9) $-4n > 56$

$n < -14$:



10) $x - (-4) > 16$

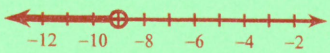
$x > 12$:



STANDARD: ALG.c.2 (PM) Solve linear inequalities involving two-steps. Clearly show EACH STEP. Circle your answer. Then graph the solution.

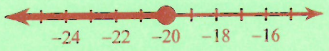
11) $51 < -5m + 6$

$m < -9$:

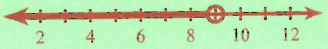


STANDARD: ALG.c.2 (PM) Solve each inequality and graph its solution.

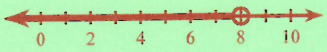
12) $\frac{p}{4} + 2 \le -3$

$p \le -20$: 

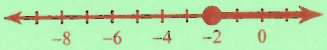
13) $-40 < -4(x + 1)$

$x < 9$: 

14) $7 - 2n > -1 - n$

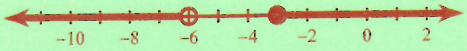
$n < 8$: 

15) $2 - 5m \ge -8m - 4$

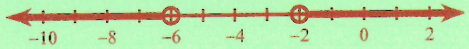
$m \ge -2$: 

STANDARD ALG.c.3 (MEET) Solve compound inequalities. Clearly show EACH STEP. Circle your answer. Then graph the solution.

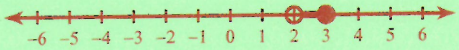
16) $\frac{m}{2} < -3$ or $-5m \le 15$

$m < -6$ or $m \ge -3$: 

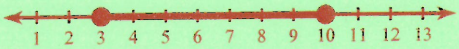
17) $4n + 8 < 3n + 2$ or $4n - 6 < 2 + 8n$

$n < -6$ or $n > -2$: 

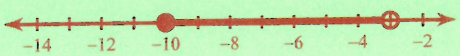
18) $-3v < -6$ and $v - 4 \le -1$

$2 < v \le 3$: 

19) $-54 \le -5x - 4 \le -19$

$3 \le x \le 10$: 

20) $-16 > 8k + 8 \ge -72$

$-10 \le k < -3$: 

Algebra 1 Name_____ ID: 1

Exponent Review for Midterm

Date_____ Period____

NAQ.c.3 Evaluate complex numeric expressions with whole number exponents demonstrating the ability to use the product, power, and quotient properties
--> Clearly show work. Simplify the exponent expression; then evaluate. Circle your answer.

QUOTIENT PROPERTY SAME BASE ⟶ SUBTRACT EXPONENTS

1) $\frac{6^5}{6^5}$ $6^{5-5} = 6^0 = 1$

$6^0=1$

2) $\frac{10^5}{10}$

$10^5 = 100{,}000$

$6^0 = 1$ ANYTHING TO THE 0 ⟶ 1

POWER RULE POWER TO POWER ⟶ MULT EXPONENTS

3) $((-3)^2)^2$ $(-3)^{2\cdot2} = (-3)^4 = +81$

remember ()'s

CALC $(-3)\wedge 4 = 81$

$(-3)^4$

4) $(-10)^3$

$(-10)^3 = -1{,}000$

DISTRIBUTIVE PROPERTY

5) $(3a^3)^3$

$27a^9$

6) $(6n)^2$

$36n^2$

7) $(2p^3)^4$

$16p^{12}$

8) $(3n^2)^3$

$27n^6$

9) $(3x^2y^3)^4$ $= 3^4 x^{2\cdot4} y^{3\cdot4}$

$= 3^4 x^8 y^{12}$

$= 81x^8y^{12}$

$81x^8y^{12}$

10) $(2x^2y^3)^3$

$8x^6y^9$

11) $(-2x^4y^3)^3$

$-8x^{12}y^9$

12) $(-7x^3y^2)^0$

$(-7)^0 \cdot x^0y^0 = 1$

13) $(-5x^4y^3)^2$

$25x^8y^6$

14) $(-5xy^3)^3$

$-125x^3y^9$

15) $(-3u^3v^2)^4$

$81u^{12}v^8$

16) $(-2xy^2)^2$

$4x^2y^4$

DISTRIBUTIVE PROPERTY WITH DIVISION

17) $\left(\frac{3y^2}{4x^3}\right)^3 = \frac{3^3y^6}{4^3x^9}$

$\frac{27y^6}{64x^9}$

18) $\left(\frac{x^2y^4}{2}\right)^3$

$\frac{x^6y^{12}}{8}$

19) CHALLENGE $\left(\frac{3x^3y^4}{2x^2y^4}\right)^2$

$\frac{27x^2}{8}$