

## Algebra Quiz Review 1.1-1.6

No calculators allowed

Directions: Show all work on loose-leaf paper and then write your final answer on this sheet.

Write an algebraic expression for each word phrase.

1. 10 less than  $x$

2. 5 more than  $d$

3. 7 minus  $f$

4. the sum of 11 and  $k$

5. 8 minus the quotient of 15 and  $y$

6. a number  $t$  divided by 3

7. one fourth of a number  $n$

8. the product of 2.5 and a number  $t$

9. the quotient of 15 and  $y$  minus  $w$

10. the product of 8 and  $z$  plus the product of 6.5 and  $y$

11. 3 plus the product of 2 and  $h$

12. 3 less than the quotient of 20 and  $x$

Simplify each expression.

13.  $\left(\frac{5}{6}\right)^2$

14.  $(1 + 3)^2$

15.  $(0.1)^3$

16.  $5 + 3(2)$

17.  $\left(\frac{16}{2}\right) - 4(5)$

18.  $4^4(5) + 3(11)$

19.  $17(2) - 4^2$

20.  $\left(\frac{20}{5}\right)^3 - 10(3)^2$

21.  $\left(\frac{3(6)}{17-5}\right)^2$

CHALLENGE!!  
OK - to - SKIP

22.  $4[(12 + 5) - 4^4]$

23.  $3[(4 - 6)^2 + 7]^2$

24.  $4[11 - (55 - 3^5) \div 3]$

Evaluate each expression for the given values of the variables. Be careful with these problems!!!  
Check your work!

25.  $4(c + 5) - f^4$ ;  $c = -1, f = 4$

26.  $-3[(w - 6)^2 + x]^2$ ;  $w = -5, x = -6$

Simplify each expression.

27.  $\sqrt{625}$

28.  $\sqrt{225}$

29.  $\sqrt{\frac{64}{9}}$

Estimate the square root. Round to the nearest integer.

30.  $\sqrt{10}$

31.  $\sqrt{15}$

32.  $\sqrt{38}$

#33-39: Name the subset(s) of the real numbers to which each number belongs.

Number	Natural	Whole	Integer	Rational	Irrational
$\frac{12}{18}$					
-5					
$\pi$					
$\sqrt{13}$					
$-\frac{4}{3}$					
2					
0					

40. Ascending Order: \_\_\_\_\_

Find each sum, difference, product or quotient. Simplify, if necessary. Write your answer on the line provided. Leave fraction problems as fraction answers!

41.  $45 + 77$

42.  $19 + (-30)$

43.  $-25 - (-25)$

44.  $-1.5 + 6.1$

45.  $-2.2 + (-16.7)$

46.  $-4.5 - 5.8$

47.  $-\frac{1}{9} + \left(-\frac{5}{9}\right)$

48.  $\frac{3}{4} + \left(-\frac{3}{8}\right)$

49.  $-\frac{7}{8} - \left(-\frac{1}{8}\right)$

50.  $(-9)^2$

51.  $-\frac{3}{8} \div \left(-\frac{9}{10}\right)$

52.  $-5(-9)$

53.  $-3(2.3)$

54.  $-\frac{2}{5} \left(-\frac{5}{8}\right)$

55.  $8(-2.4)$

56.  $84 \div (-4)$

57.  $-93 \div (-3)$

58.  $\frac{-105}{5}$

100

100

100

100

# Key

## Algebra Quiz Review 1.1-1.6

Directions: Show all work on loose-leaf paper and then write your final answer on this sheet.

Write an algebraic expression for each word phrase.

1. 10 less than  $x$

$$x - 10$$

2. 5 more than  $d$

$$5 + d$$

3. 7 minus  $f$

$$7 - f$$

4. the sum of 11 and  $k$

$$11 + k$$

5. 8 minus the quotient of 15 and  $y$

$$8 - (15 \div y) \text{ OR } 8 - \frac{15}{y}$$

6. a number  $t$  divided by 3

$$t \div 3 \text{ OR } \frac{t}{3}$$

7. one fourth of a number  $n$

$$\frac{1}{4}n$$

8. the product of 2.5 and a number  $t$

$$2.5t \text{ OR } 2.5(t)$$

9. the quotient of 15 and  $y$  minus  $w$

$$(15 \div y) - w \text{ OR } \frac{15}{y} - w$$

10. the product of 8 and  $z$  plus the product of 6.5 and  $y$

$$8z + 6.5y$$

11. 3 plus the product of 2 and  $h$

$$3 + 2h$$

12. 3 less than the quotient of 20 and  $x$

$$\frac{20}{x} - 3 \text{ OR } 20 \div x - 3$$

Simplify each expression.

13.  $\left(\frac{5}{6}\right)^2$   $\frac{25}{36}$

14.  $(1 + 3)^2$   $16$

15.  $(0.1)^3$   $0.001$

16.  $5 + 3(2)$

$$5 + 6$$

$$11$$

17.  $\left(\frac{16}{2}\right) - 4(5)$

$$8 - 20$$

$$-12$$

18.  $4^4(5) + 3(11)$

$$256(5) + 33$$

$$1280 + 33$$

$$1313$$

19.  $17(2) - 4^2$

$$34 - 16$$

$$18$$

20.  $\left(\frac{20}{5}\right)^3 - 10(3)^2$

$$\left(\frac{8000}{125}\right) - 10(9)$$

$$64 - 90$$

$$-26$$

21.  $\left(\frac{3(6)}{17-5}\right)^2$

$$\left(\frac{18}{12}\right)^2 = \frac{18^2}{12^2} = \frac{324}{144} = \frac{9}{4}$$

$$\frac{9}{4}$$

CHALLENGE!!  
OK TO SKIP

22.  $4[(12+5) - 4^4]$   
 $4(17 - 256)$   
 $4(-239)$   
 $-956$

23.  $3[(4-6)^2 + 7]^2$   
 $3[(-2)^2 + 7]^2$   
 $3(4+7)^2$   
 $3(11)^2$   
 $3(121)$   
 $363$

24.  $4[11 - (55 - 3^5) \div 3]$   
 $4(11 - (55 - 243) \div 3)$   
 $4(11 - (-188) \div 3)$   
 $4(11 + 62\frac{2}{3})$   
 $4(73\frac{2}{3})$   
 $294\frac{2}{3}$

Evaluate each expression for the given values of the variables. **Be careful with these problems!!!**  
Check your work!

25.  $4(c+5) - f^4$ ;  $c = -1, f = 4$   
 $4((-1)+5) - (4)^4$   
 $4(4) - 256$   
 $16 - 256$   
 $-240$

26.  $-3[(w-6)^2 + x]^2$ ;  $w = -5, x = -6$   
 $-3[((-5)-6)^2 + (-6)]^2$   
 $-3[(-5-6)^2 + -6]^2$   
 $-3[-11^2 + -6]^2$   
 $-3(121-6)^2$   
 $-3(115)^2$   
 $-3(13225)$   
 $-39675$

Simplify each expression.

27.  $\sqrt{625}$   
 $25$

28.  $\sqrt{225}$   
 $15$

29.  $\sqrt{\frac{64}{9}} = \frac{\sqrt{64}}{\sqrt{9}} = \frac{8}{3} = 2\frac{2}{3}$

Estimate the square root. Round to the nearest integer.

30.  $\sqrt{10}$   
 $\sqrt{9} \sqrt{16}$   
 $3 \quad 4$   
 $3$

31.  $\sqrt{15}$   
 $\sqrt{9} \sqrt{16}$   
 $3 \quad 4$   
 $4$

32.  $\sqrt{38}$   
 $\sqrt{36} \sqrt{49}$   
 $6 \quad 7$   
 $6$

#33-39: Name the subset(s) of the real numbers to which each number belongs.

Number	Natural	Whole	Integer	Rational	Irrational
$\frac{12}{18}$				X	
-5			X	X	
$\pi$					X
$\sqrt{13}$					X
$-\frac{4}{3}$				X	
2	X	X	X	X	
0		X	X	X	

40. Ascending Order:  $-5, -\frac{4}{3}, 0, \frac{12}{18}, 2, \pi, \sqrt{13}$

\* make sure the write your final answer as they appear in the chart \*

\* Entire row must be correct for full problem to be correct.

Find each sum, difference, product or quotient. Simplify, if necessary. Write your answer on the line provided. Leave fraction problems as fraction answers!

41.  $45 + 77$

122

42.  $19 + (-30)$

-11

43.  $-25 - (-25)$

$-25 + 25$   
0

44.  $-1.5 + 6.1$

4.6

45.  $-2.2 + (-16.7)$

-18.9

46.  $-4.5 - 5.8$

-10.3

47.  $-\frac{1}{9} + (-\frac{5}{9})$

$-\frac{6}{9} = -\frac{2}{3}$

48.  $\frac{3}{4} + (-\frac{3}{8})$

$\frac{6}{8} + -\frac{3}{8}$   
 $\frac{3}{8}$

49.  $-\frac{7}{8} - (-\frac{1}{8})$

$-\frac{7}{8} + \frac{1}{8} = -\frac{6}{8} = -\frac{3}{4}$

50.  $(-9)^2$

81

51.  $-\frac{3}{8} \div (-\frac{9}{10})$

$\frac{3}{8} \cdot \frac{10}{9}$   
 $\frac{30}{72} = \frac{5}{12}$

52.  $-5(-9)$

45

53.  $-3(2.3)$

-6.9

54.  $\frac{2}{5} \cdot (-\frac{5}{8})$

$-\frac{10}{40} = -\frac{1}{4}$

55.  $8(-2.4)$

-19.2

56.  $84 \div (-4)$

-21

57.  $-93 \div (-3)$

31

58.  $\frac{-105}{5}$

-21

