Prealgebra
Quiz Review

Name: Key

In Problems 1 – 10, write the decimal form of the number and **CIRCLE EACH CATEGORY** to which the number belongs.

1.) $2\frac{1}{8}$ Decimal: 2.1 Tenths — **RATIONAL** IRRATIONAL

2.) $-\frac{135}{3}$ Decimal: -45 Thousandths — **RATIONAL** IRRATIONAL

3.) $\frac{8}{7}$ Decimal: 1.14 Hundredths — **RATIONAL** IRRATIONAL

4.) $\sqrt{111}$ Decimal: 10.536 Thousandths — RATIONAL **IRRATIONAL**

5.) -3π Decimal: -9.4 Tenths — RATIONAL **IRRATIONAL**

6.) $\sqrt{99}$ Decimal: 9.95 Hundredths — RATIONAL **IRRATIONAL**

7.) $-5\frac{1}{6}$ Decimal: -5.17 Hundredths — **RATIONAL** IRRATIONAL

8.) -3.34^2 Decimal: -11.2 Tenths — **RATIONAL** IRRATIONAL

9.) $\sqrt{625}$ Decimal: 25 Tenths — **RATIONAL** IRRATIONAL

10.) $\frac{\pi}{8}$ Decimal: 0.39 Hundredths — RATIONAL **IRRATIONAL**

11.) Write each number as a decimal and place each point on the number line below.

A: $-\frac{\pi}{3} = -1.05$

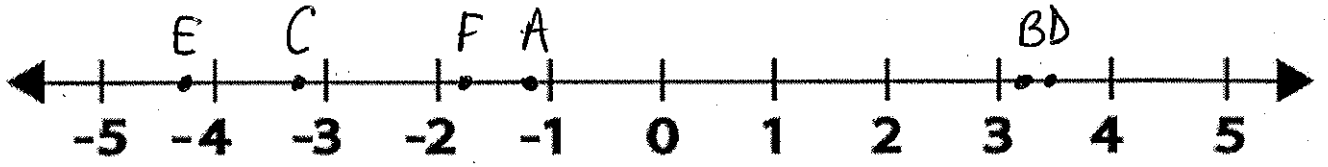
B: $\sqrt{10} = 3.16$

C: $-3\frac{1}{5} = -3.20$

D: $3\frac{4}{11} = 3.36$

E: $-4.2 = -4.20$

F: $-\frac{12}{7} = -1.71$



12.) Write each number as a decimal and place each point on the number line below.

A: $\pi - 2 = 1.14$

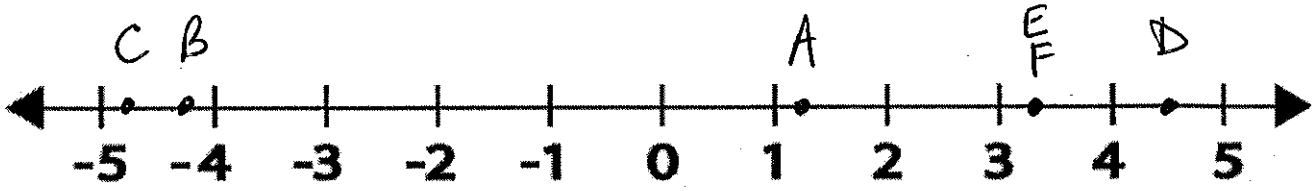
B: $-\sqrt{17} = -4.12$

C: $-2.2^2 = -4.84$

D: $|-4.5| = 4.5$

E: $3\frac{1}{4} = 3.25$

F: $3.25 = 3.25$



In Problems 13-18, evaluate using the Order of Operations. **(SHOW YOUR WORK!)**

13.) $5-(9-4)(4-2)\div 5-3$

$=5-5(4-2)\div 5-3$

$=5-5(2)\div 5-3$

$=5-10\div 5-3$

$=5-2-3$

$=3-3$

$=0$

14.) $5-120\div(9-6)*2-5$

$=5-120\div(3)\cdot 2-5$

$=5-40\cdot 2-5$

$=5-80-5$

$=-75-5$

$=-80$

15.) $(-2)^2-4*3+14\div 2-3$

$=4-4\cdot 3+14\div 2-3$

$=4-12+14\div 2-3$

$=4-12+7-3$

$=-8+7-3$

$=-1-3$

$=-4$

16.) $-4*(-5)\div 10-5*2+3$

$=20\div 10-5\cdot 2+3$

$=2-5\cdot 2+3$

$=2-10+3$

$=-8+3$

$=-5$

17.) $\dfrac{-3^2\cdot 8\div 2\cdot 3+8}{5^2-20\div 2-5}$

$=\dfrac{-9\cdot 8\div 2\cdot 3+8}{5^2-20\div 2-5}$

$=\dfrac{-72\div 2\cdot 3+8}{5^2-20\div 2-5}$

$=\dfrac{-36\cdot 3+8}{5^2-20\div 2-5}$

$=\dfrac{-108+8}{5^2-20\div 2-5}$

$=\dfrac{-100}{5^2-20\div 2-5}$

$=\dfrac{-100}{25-20\div 2-5}$

$=\dfrac{-100}{25-10-5}$

$=\dfrac{-100}{15-5}$

$=\dfrac{-100}{10}$

$=-10$

18.) $(-2)(-3)^2-42\div 4\cdot 3+1$

$=-2(9)-42\div 4\cdot 3+1$

$=-18-42\div 4\cdot 3+1$

$=-18-10.5\cdot 3+1$

$=-18-31.5+1$

$=-49.5+1$

$=-48.5$

In Problems 19-22, evaluate the expression knowing that $w = 2$, $x = -2$, $y = 3$, and $z = -4$. **(SHOW YOUR WORK!)**

19.) $xy - 4z$

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

$= -6 - 4(-4)$

$= -6 + 16$

$= 10$

20.) $x^2 + y^2 - z^2$

$= (-2)^2 + (3)^2 - (-4)^2$

$= 4 + 3^2 - (-4)^2$

$= 4 + 9 - (-4)^2$

$= 4 + 9 - 16$

$= 13 - 16 = -3$

21.) $x^w - yz + 4x$

$= (-2)^2 - (3)(-4) + (4)(-2)$

$= 4 - (3)(-4) + (4)(-2)$

$= 4 + 12 + 4(-2)$

$= 4 + 12 - 8$

$= 16 - 8$

$= 8$

22.) $xyz - x^2 - y^2 + z$

$= (-2)(3)(-4) - (-2)^2 - (3)^2 + (-4)$

$= (-2)(3)(-4) - 4 - (3)^2 - 4$

$= (-2)(3)(-4) - 4 - 9 - 4$

$= 24 - 4 - 9 - 4$

$= 20 - 9 - 4$

$= 11 - 4$

$= 7$

In Problems 23-30, solve the one-step equation. **(SHOW YOUR WORK!)**

23.) $\frac{x}{12} = 144 \cdot 12$

$x = 1728$

24.) $-25 + x = -142$

$+25 \quad +25$

$x = -117$

25.) $-10 = x - 11$

$+11 \quad +11$

$1 = x$

26.) $\frac{4}{3} \cdot \frac{3}{4} x = 20 \cdot \frac{4}{3}$

$x = 26\frac{2}{3}$

$x = 26.67$

27.) $5\frac{1}{3} x = 20$

$5\frac{1}{3} \quad 5\frac{1}{3}$

$x = 3.75$

28.) $(-1) - 18 = -x - (-1)$

$x = 18$

29.) $\frac{2}{7} x = 24 \cdot \frac{7}{2}$

$x = 84$

30.) $-32 = -17 + x$

$+17 \quad +17$

$-15 = x$