

Last Name: Answer Key
 First Name: _____

Date: _____
 Grade 9
 Term 1 Practice Test

Numbers

1) Determine which set ($\mathbb{N}, \mathbb{Z}, \mathbb{Q}, \mathbb{Q}'$) best describes each number.

a. $-3 \in \underline{\mathbb{Z}}$	b. $0.25 \in \underline{\mathbb{Q}}$
c. $\sqrt{5} \in \underline{\mathbb{Q}'}$	d. $\pi \in \underline{\mathbb{Q}'}$

2) Determine if the following statements are **true** or **false**. The entire word must be written.

a. $\mathbb{N} \subseteq \mathbb{Q}$ <u>TRUE</u>	b. $7 \in \mathbb{Q}$ <u>TRUE</u>
c. $\mathbb{Z} \subseteq \mathbb{Q}'$ <u>FALSE</u>	d. $5 \in \mathbb{Q}'$ <u>FALSE</u>
e. $\mathbb{Q}' \subseteq \mathbb{N}$ <u>FALSE</u>	f. $-\frac{6}{7} \in \mathbb{R}_+$ <u>TRUE</u>
g. $\pi \in \mathbb{Q}$ <u>FALSE</u>	h. $\mathbb{R}_- \subseteq \mathbb{R}$ <u>TRUE</u>

3) Determine which of the following contains only irrational numbers.

- a. $2^{87}, \sqrt[2]{81}, 1.325-2$
- b. $\sqrt{7}, \frac{20}{5}, \pi, 5.234^0$
- c. $\sqrt{58}, \pi, 4.2319 \dots$

Answer:
C

4) Determine which of the following contains only natural numbers

- a. $8, \frac{4}{7}, 3.24, -11$
- b. $4, -7, \frac{22}{11}, 8$
- c. $\sqrt{16}, \frac{30}{3}, 5, \frac{64}{4}$

Answer:
C

5) Solve for the unknown variables.

(a) $9x - 4 + 3 = 5 - 8 + 11$
 $9x - 1 = 8$
 $9x = 8 + 1$
 $9x = 9$
 $\frac{9x}{9} = \frac{9}{9}$
 $x = 1$

Answer: $x = 1$

(b) $5 - 3x = 19 - 9$
 $5 - 3x = 10$
 $-3x = 10 - 5$
 $-3x = 5$
 $\frac{-3x}{-3} = \frac{5}{-3}$
 $x = -\frac{5}{3}$

Answer: $x = -\frac{5}{3}$


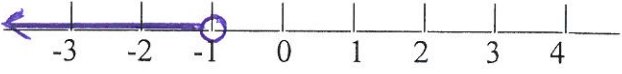


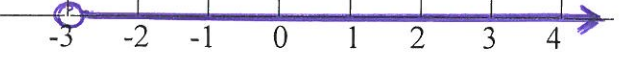



(c) $5x - 3 = 8 + 15$
 $5x - 3 = 23$
 $5x = 23 + 3$
 $5x = 26$
 $\frac{5x}{5} = \frac{26}{5}$
 $x = \frac{26}{5}$

Answer: $x = \frac{26}{5}$

(d) $2.3 + 8.7 = -3x - 7x$
 $11 = -10x$
 $\frac{11}{-10} = \frac{-10x}{-10}$
 $x = -\frac{11}{10}$

Answer: $x = -\frac{11}{10}$

6) Complete the following chart.

	Inequality	Number Line	Interval Notation
(a)	$x > -3$		$] -3, +\infty [$
(b)	$x < -1$		$] -\infty, -1 [$
(c)	$-2 < x \leq 4$		$] -2, 4]$
(d)	$-3 \leq x < 2$		$[-3, 2 [$
(e)	$x > -3$		$[-3, +\infty [$
(f)	$x > 0$		$] 0, +\infty [$
(g)	$-1 < x \leq 0$		$] -1, 0]$
(h)	$0 < x \leq 2$		$] 0, 2]$