

2nd Tri-Test Study Guide

Number Sense

Name [Signature] Period _____

$$18 = 4 - 2(8 - x)$$

Order of Operations. Show all work.

$$1) \frac{6-3 \cdot (7)}{18-5^2} \quad \frac{6-21}{18-25} = \frac{-15}{-7} \\ = \frac{15}{7}$$

$$2) \quad 18+2-4(6-8)-3 \cdot 5 \\ 9-4(-2)-15 \\ 9+8-15 \\ \cancel{29-15} \\ 17-15 = 2$$

Evaluate. Show substitution and all work.

$$3) \quad -5x+12-x; \quad x=-4 \\ -5(-4)+12-(-4) \\ 20+12+4$$

$$36$$

$$4) \quad 3|-m-72| \quad m=-50$$

$$3| -(-50)-72 | \\ 3| 50-72 | \\ 3|-22| = 3 \cdot 22 = 66$$

Solve the proportion.

$$5) \quad \frac{9}{2} = \frac{x}{14}$$

$$\frac{126}{2} = x$$

$$x = 63$$

$$6) \quad \frac{41}{13} = \frac{57}{y}$$

$$\frac{41y}{41} = \frac{241}{41}$$

$$y = 18.07$$

Write a proportion and then solve.

7) When growing beans, 80 liters of water grows a stalk 7 feet. How long will the bean stalk grow with 103 liters of water?

$$\frac{80 \text{ l}}{7 \text{ ft}} = \frac{103 \text{ l}}{x \text{ ft}}$$

$$\frac{80x}{80} = \frac{721}{80}$$

$$x = 9.01$$

8) A biologist tagged 450 aphids. He sampled 100 of them and found 7 tagged. How many total aphids are there?

$$\frac{7 \text{ tag}}{100 \text{ samp. tot.}} = \frac{450}{x}$$

$$\frac{7x}{7} = \frac{45000}{7} = 6428 \text{ aphids}$$

Write a proportion and then solve.

9) 33% of 43 is what number?

$$\frac{33}{100} = \frac{x}{43}$$

$$x = 14.19$$

what percent of 27 is 19?

$$\frac{x}{100} = \frac{19}{27}$$

10) The Baja Banditos have won 57 out of 67 games. If they play 30 more games, how many do you expect them to win?

$$\frac{57}{67} = \frac{x}{30}$$

$$\frac{1710}{67} = \frac{67x}{67}$$

$$x = \frac{1710}{67} = 26 \text{ games}$$

Write a proportion and convert.

11) 14 m/sec to km/sec

$$\frac{1 \text{ km}}{1000 \text{ m}} = \frac{x}{14}$$

$$\frac{14}{1000} = 0.014$$

12) 1 inch = 2.5 cm Convert 73 cm to inches

$$\frac{1 \text{ in}}{2.5 \text{ cm}} = \frac{x}{73}$$

$$x = 29.2 \text{ in}$$

$$\frac{73}{2.5} = x$$