Math 7 Two Step Equations Test Part 7:

Name: Date:

Neatly complete the following:

1. Solve for the variable by showing all work in the space provided. No check is required, but it may be worth it for you.(2 marks each, total 12 marks)

i) $\frac{x}{4} - 5 = 3$ +5 +5

$4 \times \frac{x}{4} = 8 \times 4$

$x = 32$

ii) $-3s + 3 = 9$ -3 -3

$\frac{-3s}{-3} = \frac{6}{-3}$

$\boxed{s = -2}$

iii) $4k - 8 = 24$ +8 +8

$\frac{4k}{4} = \frac{32}{4}$

$k = 8$

iv) $5 = \frac{x}{5} - 2$ +2 +2

$5 \cdot 7 = \frac{x}{5} \times 5$

$35 = x$

v) $45 = 6x - 3$ +3 +3

$\frac{48}{6} = \frac{6x}{6}$

$8 = x$

vi) $41 = 12n + 5$ -5 -5

$\frac{36}{12} = \frac{12n}{12}$

$3 = n$

2. Solve for each variable, show all work and complete a check in the space(s) provided.(total 6 marks)

i) $135 = 11 + 6w$ -11 -11

$\frac{124}{6} = \frac{6w}{6}$

$20 = 10$ -10

$130 = 10 + 6w$

$\frac{120}{6} = \frac{6w}{6}$

$20 = w$

ii) $23 = -6x - 7$ +7 +7

$\frac{30}{-6} = \frac{-6x}{-6}$

$-5 = x$

3. Jim and Bill are planning a hiking trip to a remote part of the Great Wall of China. The total cost is a flat rate of $125 for the guide plus $150 per person.

i)Create an equation for this situation.

$C = 150p + 125$

ii) How much will it cost Jim and Bill to do this hike?

$C = 150(2) + 125$

$C = 300 + 125$ $\quad C = \$425$

iii) If 12 people went on this hike, what would the total cost be?

$C = 150(12) + 125$

$C = 1800 + 125$ $\quad C = \$1925$

iv) If the cost was $3425 for the hike, how many hikers took part that day?

$-125 \qquad -125$

$3425 = 150p + 125$

$\frac{3300}{150} = \frac{150p}{150}$ $\quad 22 = p$

4. Lala is sewing two types of trim on her new dress. The length of leather trim is 35 cm more than 5 times the length of ribbon trim. She uses 110 cm of leather trim. How much ribbon does she use?

a) Write an equation to represent the situation.

$L = 5r + 35$

b) Solve the equation and check your answer.

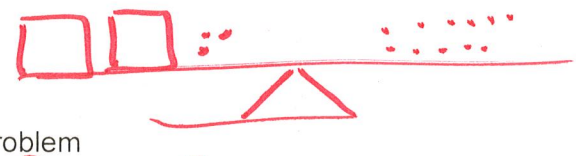
$-35 \qquad -35$

$110 = 5r + 35$

$\frac{75}{5} = \frac{5r}{5}$ $\quad r = 15$

5. i)Create a weigh scale diagram for the following question.

2x + 3 = 11



ii)Complete the problem

$-3 \qquad -3$

$2x + 3 = 11$

$\frac{2x}{2} = \frac{8}{2}$ $\quad x = 4$

iii) Complete a check.

$2x + 3 = 11$

$2(4) + 3 = 11$ $\quad 8 + 3 = 11$

$11 = 11$