

1. Sum of two numbers is 20; difference is 4. Find them.

$$x + y = 20; x - y = 4$$

$$\text{Add: } 2x = 24$$

Answer: 12 and 8

2. 5 pencils and 2 pens cost \$4.50; a pen is \$1.00. Pencil price?

$$5p + 2(1) = 4.50$$

$$5p = 2.50$$

Answer: \$0.50

3. Adult tickets \$8, child \$5. 10 tickets sold for \$65. How many of each?

$$a + c = 10; 8a + 5c = 65$$

$$8a + 5(10-a) = 65; 3a = 15$$

Answer: 5 adult, 5 child

4. Two burgers + fries = \$11. One burger + fries = \$7. Prices?

$$\text{Subtract: burger} = 4$$

$$4 + f = 7$$

Answer: burger \$4, fries \$3

5. $x + y = 25$ and $x = 4y$. Find both.

$$4y + y = 25$$

Answer: $x = 20$, $y = 5$

6. Coffee \$3, muffin \$2.50. 12 items sold, \$32 total. How many coffees?

$$c + m = 12; 3c + 2.5m = 32$$

$$3c + 2.5(12-c) = 32; 0.5c = 2$$

Answer: 4 coffees, 8 muffins

7. A boat goes 24 mi downstream in 2 hr, back upstream in 3 hr. Boat speed and current?

$$b + c = 12; b - c = 8$$

$$\text{Add: } 2b = 20$$

Answer: boat 10 mph, current 2 mph

8. Perimeter of a rectangle is 34; length is 5 more than width. Dimensions?

$$2L + 2W = 34; L = W + 5$$

$$2(W+5) + 2W = 34; 4W = 24$$

Answer: $L = 11$, $W = 6$

9. 25 items sold: hot dogs \$2.25, sodas \$1.50, total \$45. How many of each? (Trainer echo!) ★ challenge

$$h + s = 25; 2.25h + 1.5s = 45$$

$$2.25h + 1.5(25-h) = 45$$

$$0.75h = 7.5$$

Answer: 10 hot dogs, 15 sodas

10. Mixed nuts: cashews \$8/lb, peanuts \$3/lb. Make 10 lb of mix worth \$5/lb. Pounds of each? ★ challenge

$$c + p = 10; 8c + 3p = 50$$

$$8c + 3(10 - c) = 50; 5c = 20$$

Answer: 4 lb cashews, 6 lb peanuts