At a school concert, the total value of tickets sold was \$1,506. Student tickets sold for \$6 and each adult ticketf sold for \$9 each. The number of adult tickets sold was five less than three times the number of student tickets sold. How many student tickets and how many adult tickets were sold?

Type	$Number \cdot Value(\$) = Total\ Value(\$)$		
Student			
Adult			
			\$1506

A whale-watching ship had 40 paying passengers on board. The total collection from tickets was \$1,196. Full-fare passenger paid \$32 each and reduced-fare passenger paid \$26 each. How may full-fare passengers and how many reduced-rate fare passengers were on the ship?

Henning is mixing raisins and nuts to make 10 pounds of trail mix. Raisins cost \$2 a pound and nuts cost \$6 a pound. If Henning wants his cost of the trail mix to be \$5.20 a pound, how many pounds of raisins and how many pounds of nuts should he use?

2lbs Raisins
8lbs Nuts

Type	pounds	Price per pound	total value
Raisins	x	\$2	$2x$
Nuts	$10-x$	\$6	$6(10-x)$
Trail mix	10	5.20	10(5.20)

$$2x+6(10-x)=52$$

$$2x+60-6x=52$$

$$-4x+60=52$$

$$-4x=-8$$

$$x=2$$

mixed Juice x

Soda $28-x$

$3x + 4(28-x) = 91$

$3x + 112 - 4x = 91$

$-x + 112 = 91$

$-x = -21$

$x = 21$ gallons mixed juice

7 gallons Soda

Becca wants to make mix juice and soda punch. She can buy fruit juice for $3 a gallon and soda for $4 a gallon. If she wants to make 28 gallons of punch at a cost of $3.25 a gallon, how many gallons of fruit juice and how many gallons of soda should she buy?

$3x + 4(28-x) = 91$

$3x + 112 - 4x = 91$

$-x + 112 = 91$

$-x = -21$

$x = 21$ gallons mixed juice

7 gallons Soda

3% x

5% $20000-x$

Stacey has $20,000 to invest in two different bank accounts. One account pays interest at 3% per year and the other account pays 5% per year. How much should she invest in each account if she want to earn 4.5% interest per year on the total amount?

$.03x + .05(20000-x) = .045(20,000)$

$.03x + 1000 - .05x = 900$

$-.02x = -100$

$2x = 10000$

$x = 5000$ @ 3%

15,000 @ 5%

3.2% $= x$

8% $= 8000-x$

Marco has $8000 to save or his daughter's college education. He wants to divide it between one account that pays 3.2% interest and the other account pays 8% interest per year. How much should he invest in each account if he wants the interest on the total investment to be 6.5%.

$.032x + .08(8000-x) = .065(8000)$

$.032x + 640 - .08x = 520$

$32x + 640000 - 80x = 520000$

$-48x = -120000$

$x = 2500$ @ 3.2%

$5500 @ 8%