

CALCULATOR APPLICATIONS TIPS (JANUARY 2022)

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1. How many ounces of salt must be added to 15 ounces of a 10% saline solution to make it a 20% saline solution?

$$1 = \underline{\hspace{2cm}} \text{ oz}$$

$$100x + 15(10) = 20(x + 15) ; x = 1.88 \text{ oz.}$$

2. How many ounces of distilled water must be added to 32 oz of solution that is 10% iodine to dilute it so that it is 4% iodine?

$$2 = \underline{\hspace{2cm}} \text{ oz}$$

$$0(x) + 32(10) = 4(x + 32) ; x = 48.0 \text{ oz.}$$

3. A pound of peanuts sells for \$1.80. A pound of pecans sells for \$3.50 a pound. How many pounds of peanuts must be mixed with pecans to make 20 pounds of a peanut-pecan mixture that sells for \$2.50 a pound?

$$3 = \underline{\hspace{2cm}} \text{ pounds}$$

$$1.80x + 3.50(20 - x) = 2.50(20) ; x = 11.8 \text{ pounds}$$

4. 16 ounces of grapes that sell for 15¢/oz is mixed with 10 ounces of strawberries that sell for 25¢/oz. How much would a mixture of the grapes and strawberries sell for?

$$4 = \underline{\hspace{2cm}} \text{ ¢/oz}$$

$$15(16) + 25(10) = 20x ; x = 18.8 \text{ ¢/oz}$$

5. How many ounces of salt must be added to 20 ounces of a 15% saline solution to make it a 25% saline solution?

$$5 = \underline{\hspace{2cm}} \text{ oz}$$

$$100x + 15(20) = 25(x + 20) ; x = 2.67 \text{ oz}$$

6. How many ounces of distilled water must be added to 18 oz of solution that is 15% iodine to dilute it so that it is 10% iodine?

$$6 = \underline{\hspace{2cm}} \text{ oz}$$

$$0(x) + 15(18) = 10(x + 18) ; x = 9.00 \text{ oz}$$

7. A pound of peanuts sells for \$2.00. A pound of pecans sells for \$4.20 a pound. How many pounds of peanuts must be mixed with pecans to make 25 pounds of a peanut-pecan mixture that sells for \$3.00 a pound?

$$7 = \underline{\hspace{2cm}} \text{ pounds}$$

$$2.00x + 4.20(25 - x) = 3.00(25) ; x = 13.6 \text{ pounds}$$

8. 40 ounces of grapes that sell for 20¢/oz is mixed with 30 ounces of strawberries that sell for 25¢/oz. How much would a mixture of the grapes and strawberries sell for?

$$8 = \underline{\hspace{2cm}} \text{ ¢/oz}$$

$$20(40) + 25(30) = 70x ; x = 2.21 \text{ ¢/oz}$$