

## Review of Percentages—ANSWERS

- 14 gallons of paint is what percentage of 43 gallons? First: is it about 1% or 10% or 100%?  $14/43 = 32.6$  percent. Approximation:  $15/45 = 33$  percent.
- 16 gallons is what percentage of 110 gallons? First: is it about 1% or 10% or 100%? 14.5 percent. Approximation:  $16/100 = 16$  percent.
- What percentage of 45 gallons is 4 gallons? First: is it about 1% or 10% or 100%?  $4/45 = 8.9$  percent. Approximation: 10 percent.
- If we had 23 gallons at first, and then increased it by 55 gallons, what is the percentage increase? First: is it about 1% or 10% or 100%?  $55/23 = 239.1$  Approximation: 200%. The new amount would be 78 gallons.
- If your weight increased by 19% from 85 pounds, how much did it increase? First: Did it increase by more 50 pounds?  $85 \cdot .19 = 16.2$  pounds. About  $.2 \cdot 80 = 16$  pounds.
- If you weighed 63 pounds originally, and your weight increased by 3.32%, how much would you weigh? First: More than 100 pounds, or less?  $63 \cdot 1.0332 = 65.09$  pounds. About  $60 \cdot .03 = 1.8$  pound increase, so  $63 + 1.8 = 64.8$  pounds.
- What is your weight if you used to weigh 88 pounds, but then your weight rose 35% over the next two years? First: More than 100 pounds?  $88 \cdot 1.35 = 118.9$  pounds. About  $90 \cdot .4 = 36$  pound increase, so about 126 pounds.
- If 12.4 tons of coal is used, and that was 19% of the amount of coal in the coal pile, how much did the coal pile weigh? First: More than 20 tons?  $12.4 = .19 X$ , so  $X = 12.4/.19 = 65.2$  tons. About  $12/.2 = 12 \cdot 5 = 60$  tons.
- If 2.1 tons of steel is 88% of the amount of steel the car company uses each hour, how much does it use each hour? First: More than 10 tons?  $2.1 = .88X$ , so  $X = 2.1/.88 = 2.39$  tons. About  $1/2 = 2$  tons.
- If 2.7% of the usual daily tonnage of sulphuric acid was used today— 180 tons— what is the usual daily tonnage? First: More than 1,000 tons?  $180 = .027X$ , so  $X = 180/.027 = 6,666.7$  tons. About  $200/.02 = 200 \cdot 50 = 10,000$  tons.
- The catch of fish this week was 334% of the catch last week, which was 4.3 tons. How much was caught this week? First: More than 8 tons?  
 $X = 3.34 \cdot 4.3$  so  $X = 3.34 \cdot 4.3 = 14.4$  tons. About  $3 \cdot 4 = 12$  tons.
- If 2.2% of men are convicted of burglary this year and that number is 234,333 men, what is the total population of men? First: Is it more than 1 million?  
 $234,333 = .022 \cdot X$ ,  $X = 234333/0.22 = 10,651,500$  men. About 200 thousand/.02 = 200 thousand  $\cdot 50 = 10$  million men.
- Mr. Jones's corn yield was 208 bushels per acre last year, but fell by 12.5% this year. What is the yield this year? First: More than 100 bushels per acre?  
It fell  $.125 \cdot 208 = 26$ , so it fell to 182 bushels per acre. A decline of about  $200 \cdot .1 = 20$ , so about 180 bushels per acre.
- If 99.2% of the chestnut trees were killed by the blight and 21 are left, how many were there originally? First: More than 100?  
That means 21 is .8
- If we had 23 gallons of paint today, and then increased it by 55 gallons, what percentage of yesterday's amount of paint is today's? First: is it about 1% or 10% or 100%?  
Today we have  $23 + 55 = 78$ , which  $78/23 = 339$