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Name:_____ Date:_____

Math 8 HW Section 3.3 Evaluating the Percent of a Number

1. Determine the percent of each number. Give your answer to the nearest hundredth:

a) 10% *of* 1000	b) 20% *of* 200	c) 40% *of* 300	d) 50% *of* 340
e) 15% *of* 60	f) 25% *of* 580	g) $75\frac{1}{2}$% *of* 424	h) $80\frac{1}{3}$% *of* 180
i) 11% *of* 3000	j) 22% *of* 4200	k) 120% *of* 14	L) 350% *of* 650
m) 1.25% *of* 600	n) $6\frac{1}{4}$% *of* 40	o) $10\frac{1}{3}$% *of* 630	p) $8\frac{2}{5}$% *of* 125.50

2. Terry was asked to find the percent of each number. The work below shows what he did. Indicate any mistakes that you see. If there are no mistakes, indicate that all the steps are correct:

a) 11% *of* 90 $s1 = 11\% \times 90$ $s2 = 11 \times 90$ $s3 = 990$	b) 120% *of* 32 $s1 = 120\% \times 32$ $s2 = 1.20 \times 32$ $s3 = 6.4$	c) 130% *of* 45 $s1 = 130\% \times 45$ $s2 = (100\% + 30\%) \times 45$ $s3 = (100\% \times 45) + (20\% \times 45)$ $s4 = 45 + 9 = 54$
d) 10.5% *of* 40 $s1 = 10.5\% \times 40$ $s2 = 10.5 \times 40$ $s3 = 420$	e) 250% *of* 180 $s1 = 250\% \times 80$ $s2 = 2.5 \times 80$ $s3 = 200$	f) $10\frac{1}{3}$% *of* 90 $s1 = (10\% + 0.33\%) \times 90$ $s2 = (10\% \times 90) + (0.33\% \times 90)$ $s3 = 9 + 0.297$ $s4 = 9.297$

3. Jason took his girlfriend to dinner at a nice restaurant. The bill was $84.20 and he needs to give a 15% tip. How much tip should he give? ① $84.20 \times 0.15 =$ ____ or ① 10% of 84.20 = 8.42 ② 5% of 84.20 = 4.21 → 12.63

4. What is the difference between 33.33% and $33\frac{1}{3}\%$? Explain your answer.

repeats.

5. The cost of an Ipad-mini is $330 at the Apple store. If Alan got a $33\frac{1}{3}\%$ discount, how much does he need to pay before tax?

① $33\frac{1}{3}\% = 0.333333 = \frac{1}{3}$

② $330 \times \frac{2}{3} = 220$

6. The surface area of a building is $325{,}000 m^2$ and 10.5% of the area is to be painted red. What is the area that is to be painted red in m^2?

$A = 325{,}000 m^2 \Rightarrow 100\%$

$32{,}500 m^2 \Rightarrow 10\%$

$3250 m^2 \Rightarrow 1\%$

$0.5\% \Rightarrow 1625 m^2$

$10.5\% = 32500 + 1625 = 34{,}125 m^2$

7. Tom weighs 150 lbs. He spent two months working out and gained 12% more weight. How much does he weigh now?

① 10% → 150 lb → 15 lbs

② 1% → 150 lb → 1.5 lb

③ 2% → 150 lb → 3 lbs

12% → 150 lb → 18 lbs

④ Total: 150 + 18 = 168 lbs

8. If 20% of an unknown number is 10, then what is that number?

20% → 10 (×5)

100% = 50

9. 15% of the people in an election voted for Brad. When the ballots were counted, 1526 people voted for him. How many people voted altogether?

$0.15 \times N = 1526$

$N = \frac{1526}{0.15} = 10173.\overline{3}$

15% → 1526

5% → 508.6 (×20)

100% → 10173.3

10. Challenge: Sam's age is 20% of David's age. Terry's age is 150% of Sam's age. If the sum of all their ages is 90years, then how old is each person?

SAM = DAVID's × 0.20

TERRY = SAM's × 1.5

TERRY = DAVID's × 0.20 × 1.5

TERRY = DAVID's × 0.3

SAM's + DAVID + TERRY = 90

0.2D + 1D + 0.3D = 90

1.5D = 90

D = 60

SAM's = 12

TERRY = 18

117 → 1.17

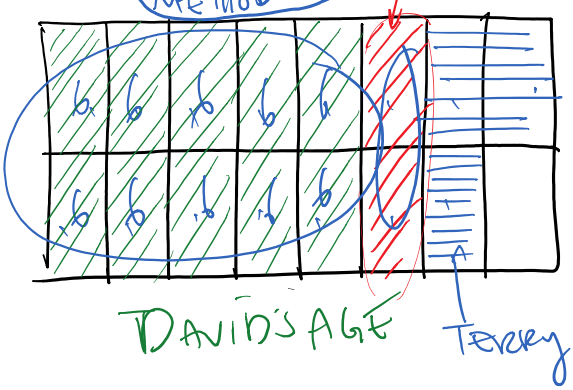
95 → 0.95

683 → 6.83

25.4 → 0.254

997 → 9.97

ILIA KAMARI'S METHOD



2 → 2

→ 1

15 BOXES = 90

1 BOX = 6