Multi-Term Ratios, Percents, Interest REVIEW

1. table

a)	1:2	$\frac{1}{2}$	50%	0.5
b)	4:5	$\frac{4}{5}$	80%	0.8
c)	2:3	$\frac{2}{3}$	67%	0.67 or $0.\dot{6}$ (0.6666...)
d)	1:3	$\frac{1}{3}$	33%	0.33 or $0.\dot{3}$
e)	18:25	$\frac{18}{25}$	72%	0.72
f)	4:6	$\frac{2}{3}$	67%	0.67 or $0.\dot{6}$

2a) $1:2:3 = 4:x:12$ (×4, ×4)

$x = 8$

b) $10:x:y = 150:30:45$ (×15, ÷15)

$x = \frac{30}{15}$ $\quad$ $y = \frac{45}{15}$

$x = 2$ $\quad$ $y = 3$

c) $x:2.2:6.6 = 4.4:y:8.8$

$\frac{6.6}{8.8} = \frac{x}{4.4}$ $\quad$ $6.6(4.4) = 8.8x$ $\quad$ $x = 3.3$

$\frac{29.04}{8.8} = x$

$\frac{8.8}{6.6} = \frac{y}{2.2}$ $\quad$ $8.8(2.2) = 6.6y$ $\quad$ $y = 2.9$

$\frac{19.36}{6.6} = y$

3a) $0.08 \times 32 = 2.6$

b) $0.1 \times 120 = 12$

c) $0.44 \times 88 = 38.7$

d) $0.85 \times 250 = 212.5$

e) $0.14 \times 166 = 23.2$

f) $0.67 \times 67 = 44.9$

g) $0.99 \times 99 = 98$

h) $0.98 \times 89 = 87.2$

4a) 0.78 b) 0.34 c) 0.45 d) 0.77 e) 1.02
f) 7.64

5a) 75%. b) 80%. c) 24%. d) 67%. e) 24%.

6a) $\frac{10}{0.1} = 100$ b) $\frac{15}{0.3} = 50$ c) $\frac{100}{0.15} = 666.7$

d) $\frac{25}{0.25} = 100$

7a) $I = P \cdot r \cdot t$
$I = 8000(0.12)(\frac{6}{12})$
$I = \$480$

b) $I = P \cdot r \cdot t$
$I = 2500(0.08)(\frac{3}{12})$
$I = \$50$

c) $I = P \cdot r \cdot t$
$I = 455(0.045)(\frac{90}{360})$
$I = \$5.12$

8a) $I = P \cdot r \cdot t$
$150 = 1050(r)(\frac{8}{12})$ → $\frac{8}{12} = 0.67$
$r = 150 \div 1050 \div 0.67$
$r = 0.21$
0.21×100
$= 21\%$

b) $I = P \cdot r \cdot t$
$85 = 2000(r)(\frac{300}{360})$ → $\frac{300}{360} = 0.83$
$r = 85 \div 2000 \div 0.83$
$r = 0.051$
0.051×100
$= 5.1\%$

9a) $100\% - 25\% = 75\%$ ∴ the sale price is $\$79.49$.
sale price $= 75\% \times \$105.99$
$= 0.75 \times 105.99$
$= \$79.49$

b) $\frac{20\,000}{1\,000\,000} = 0.02$ $0.02 \times 100 = 2\%$ ∴ he saved 2% of his winnings.

c) 90% of 55L $0.9 \times 55 = 49.5$ ∴ in 55L of Gatorade, 49.5L is water.

d) shots made (%)
$\frac{320}{436} = 0.73$
$0.73 \times 100 = 73\%$

shots missed (%)
$100\% - 73\% = 27\%$
∴ the player missed 27% of her shots.

e) saving?
$1599.99 - 1299.99 = \$300.00$

percent reduced?
$\frac{1299.99}{1599.99} = 0.81$ so... $100\% - 81\% = 19\%$
$0.81 \times 100 = 81\%$
only paying 81% of the regular price.
∴ the cost was reduced by 19%.

f) system cost = \$600 + tax (13%)
$= 600 \times 1.13$
$= \$678$
total left for games.
$850 - 678 = \$172$.

if 2 games? $= 80 \times 2 \times 1.13$ (taxes)
$= \$180.80$.
∴ he only has \$172 so he can only buy 1 game.

g) earned from sales
$\$119 - \$80 = \$39$
weekly

$\frac{39}{0.06} = \$650$
∴ Sally's sales for the week was \$650. (she sold \$650 worth of cloths).

h) $\frac{15}{0.35} = 42.8$ races
$= 43$ races.
∴ the team won 43 races.

(4)

i) $\frac{90.49}{1.13} = 80.08$ taxes

$\frac{80.08}{11.44} = 7$ cost per album

∴ Antonia bought 7 albums.

j. base salary $1000 $\quad 1700 - 1000 = \$700$

$15000 \rightarrow \frac{700}{15000} = 0.047 = 4.7\%$

$17500 \rightarrow \frac{825}{17500} = 0.047 = 4.7\%$

$47000 \rightarrow 47000 \times 0.047 = \$2209$

$\$2209$
$+ \underline{1000}$ - base salary
$\$3209$

∴ his pay is $3209 when he sells $47000 worth of goods.