

## Math 172 Review for Exam 1

1. bcc are the ones with a terminating decimal representation. A prime factorization of their denominators results in only powers of 2 and 5.

2a.  $\frac{13}{25}, .52, 52\%$

b.  $\frac{5}{4}, 1.25, 125\%$

c.  $\frac{1}{25}, 0.58, 58\%$

3 a.  $\frac{4}{11}$

b.  $10x = 3.\overline{6}$

$- x = 0.3\overline{6}$

$9x = 3.3$

$90x = 33$

$x = \frac{33}{90} = \frac{11}{30}$

c.  $\frac{3636}{1000} = \frac{909}{250}$

4. a.  $(0.25 \times 12.3) \times 8$

$(0.25 \times 8) \times 12.3$  commutative and associative properties

$(\frac{1}{4} \times 8) \times 12.3$  fraction equivalents

$2 \times 12.3$  multiply

$24.6$  multiply

b.  $1.3 \times 2.4 + 2.4 \times 2.7$

$2.4(1.3 + 2.7)$  distributive Property

$2.4(4)$  add

$9.6$  multiply

c)  $15.73 + 2.99$

$- .01 + .01$

$15.72 + 3.00$

18.72

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d)  $27.51 - 19.98$

$+ .02 + .02$

$27.53 - 20.00$

7.53

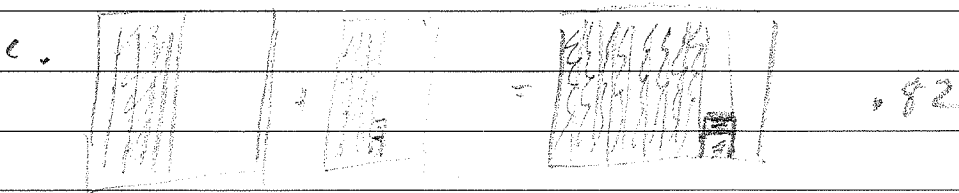
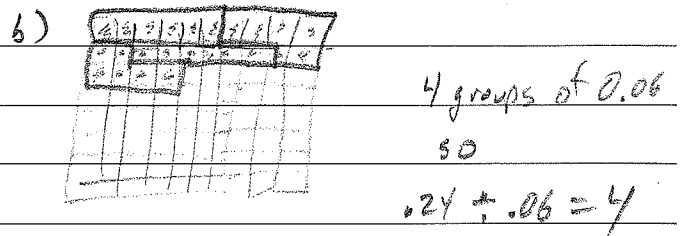
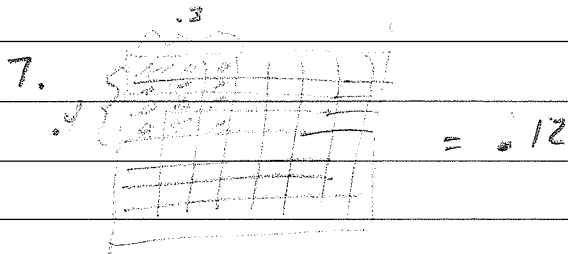
5 a)  $2 \times 3 \times 8 = 48$  Low      Range 48 to 108  
 $3 \times 4 \times 9 = 108$  High

b)  $2 + 3 + 8 \rightarrow 13$   
 $+ .5 + .3 + .2 \rightarrow +1$   
14

c)  $8.5 + 2.4 = 10.9$

d)  $400 \div 50 \approx 8$

6 a)  $\frac{5}{12} = 0.\overline{384615}$       b)  $\frac{132}{333} = 0.\overline{396}$       c) does not repeat



8. a. 0.5, 0.5005, 0.505, 0.55

b. 3%,  $\frac{2}{7}$ , 0.3,  $\frac{1}{3}$

9.  $\frac{4}{4+a} = \frac{x}{91}$   $x = 28$  math majors

10.  $x =$  original price  
 $x - .20x = .80x =$  sale price  
 $.80x - .30(.80x) = (1 - .30)(.80x) = (.70)(.80x) =$  price after coupon  
 $.56x = 487.20$   
 $x = \boxed{\$870}$

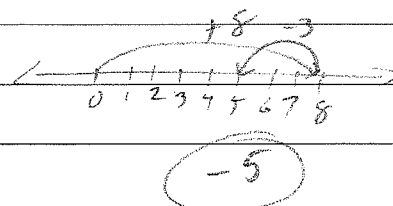
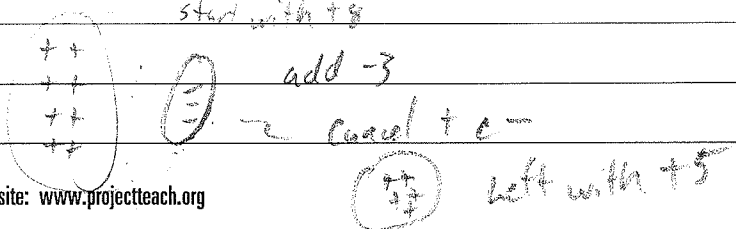
11. a.  $23\% \times 81 \approx \frac{1}{4} \times 80 \approx 20$   
 b.  $32\% \times 54 \approx \frac{1}{2} \times 60 \approx 20$

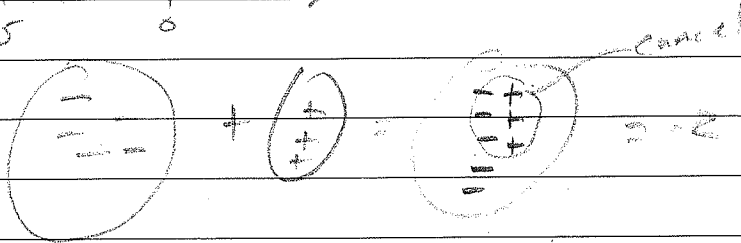
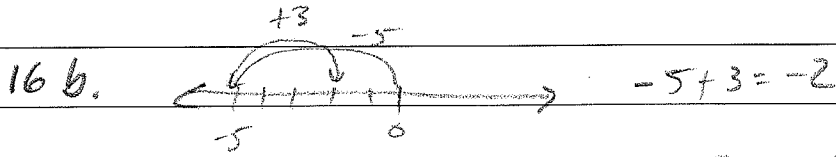
12. a)  $\$3.45/7 \approx 49.2¢/16$   $\$5.11/11 \text{ lbs} = \$464/16$   
 $\leftarrow$  11 lbs for  $\$5.11$  is the better buy  
 b)  $\frac{24oz}{58¢} = .41oz/¢$   $16 \frac{oz}{47¢} = .34oz/¢$   
 $\leftarrow$  Better buy is 24oz for 58¢

13.  $5 \text{ gallons} / 5 \text{ wks} \cdot \frac{52 \text{ wks}}{1 \text{ yr}} = 86 \frac{2}{3} \text{ gallons/year}$

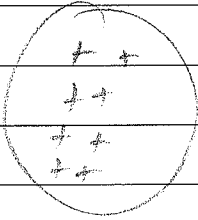
14.  $.43 \times 10,500 = \$4,515$   
 $0.43 \cdot x = 75000$   
 $x = \$174,419.60$

15. The prices after the sale are 4% lower than before the sale.

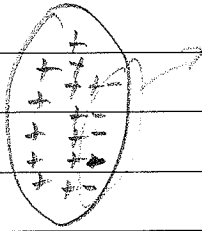
16. a)  or 



17 a)

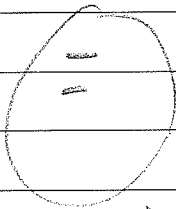


— need to remove 5 -'s but we don't have any so add an equal number of + & - until there are 5 we can take away

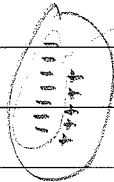


left with +13

b)



Start with -2, we want to remove 7 -'s. Add an equal number of + & - until there are 7 -'s that we can remove.



Left with +5.

18. 3 groups of  $-2 = -6$

b) The opposite of 3 groups of  $-4$  is  $+12$ .

19 a.  $>$

d.  $=$

b.  $>$

e.  $<$

c. 7

20 a) negative

b) positive