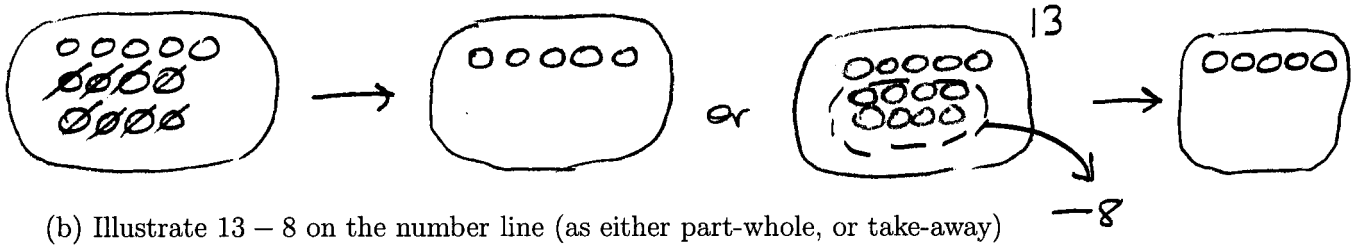
Fri, Sept 14, 2012 **MATH 210** **Quiz 2**

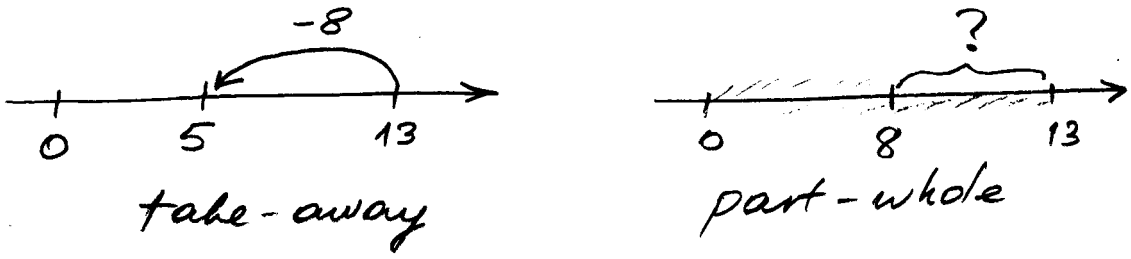
Name: (print) Solutions.

Each problem is worth 2 points. Show all your work.

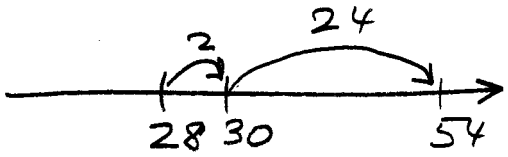
1. (a) Illustrate $13 - 8$ by crossing out objects in a set model



(b) Illustrate $13 - 8$ on the number line (as either part-whole, or take-away)



2. (a) Illustrate the counting-up method for finding $54 - 28$ by showing two hops on the number line.



$54 - 28 = 2 + 24 = 26$

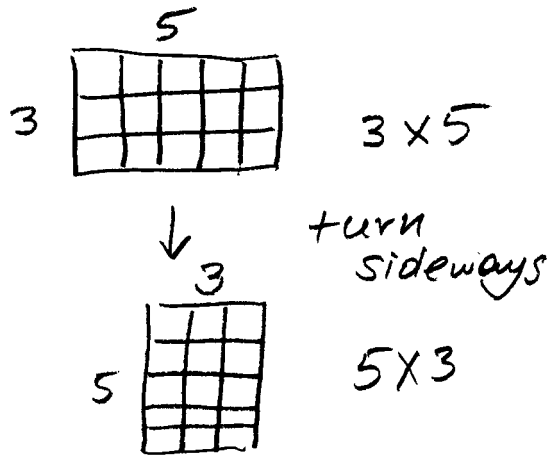
(b) Illustrate the comparison interpretation for $54 - 28$ using a set model (you may use pennies and dimes and ask a question).

Steven has 5 dimes and 4 pennies.
Jacob has 2 dimes and 8 pennies.
How much more money does Steven have?

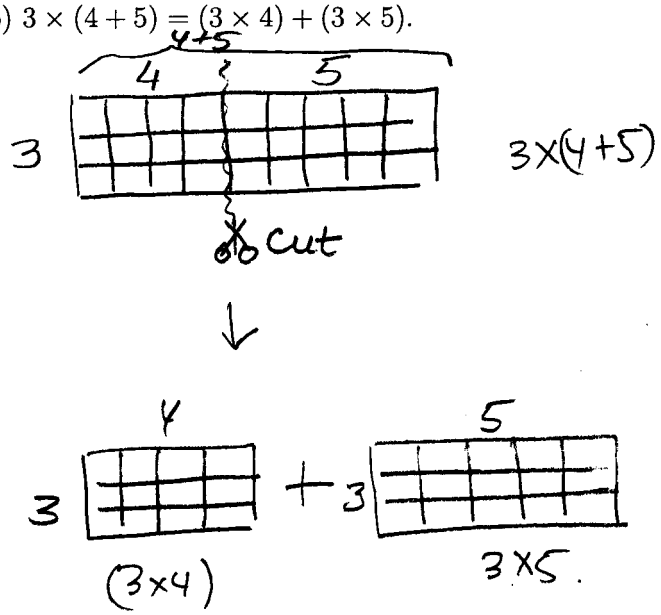
Please turn over...

3. Illustrate the following multiplication statements by using a rectangular array model:

(a) $3 \times 5 = 5 \times 3$



(b) $3 \times (4+5) = (3 \times 4) + (3 \times 5)$.



4. Identify the arithmetic property being used:

(a) $| \times \cap\cap|| = \cap\cap||$

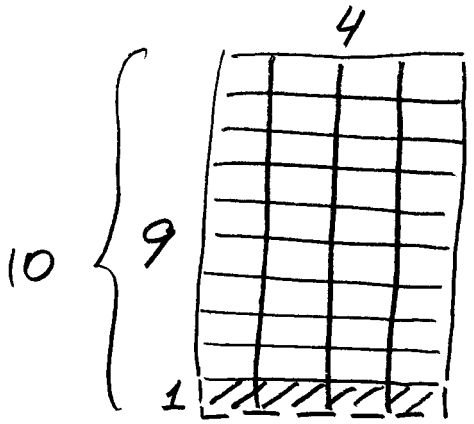
Multiplicative identity

(b) $7 \times 5 + 2 \times 5 = (7+2) \times 5$.

distributive property

5. Multiplying by number 9 is easy: take 10 times the number and subtract the number.

(a) Draw a rectangular array diagram that illustrates this method for 9×4.



$9 \times 4 = 10 \times 4 - 1 \times 4$

$= 40 - 4 = 36.$

(b) Use this method to compute 9×33 and 9×89.

$9 \times 33 = 10 \times 33 - 33$

$= 330 - 33$

$= 297$

$9 \times 89 = 10 \times 89 - 89$

$= 890 - 89$

$= 801.$