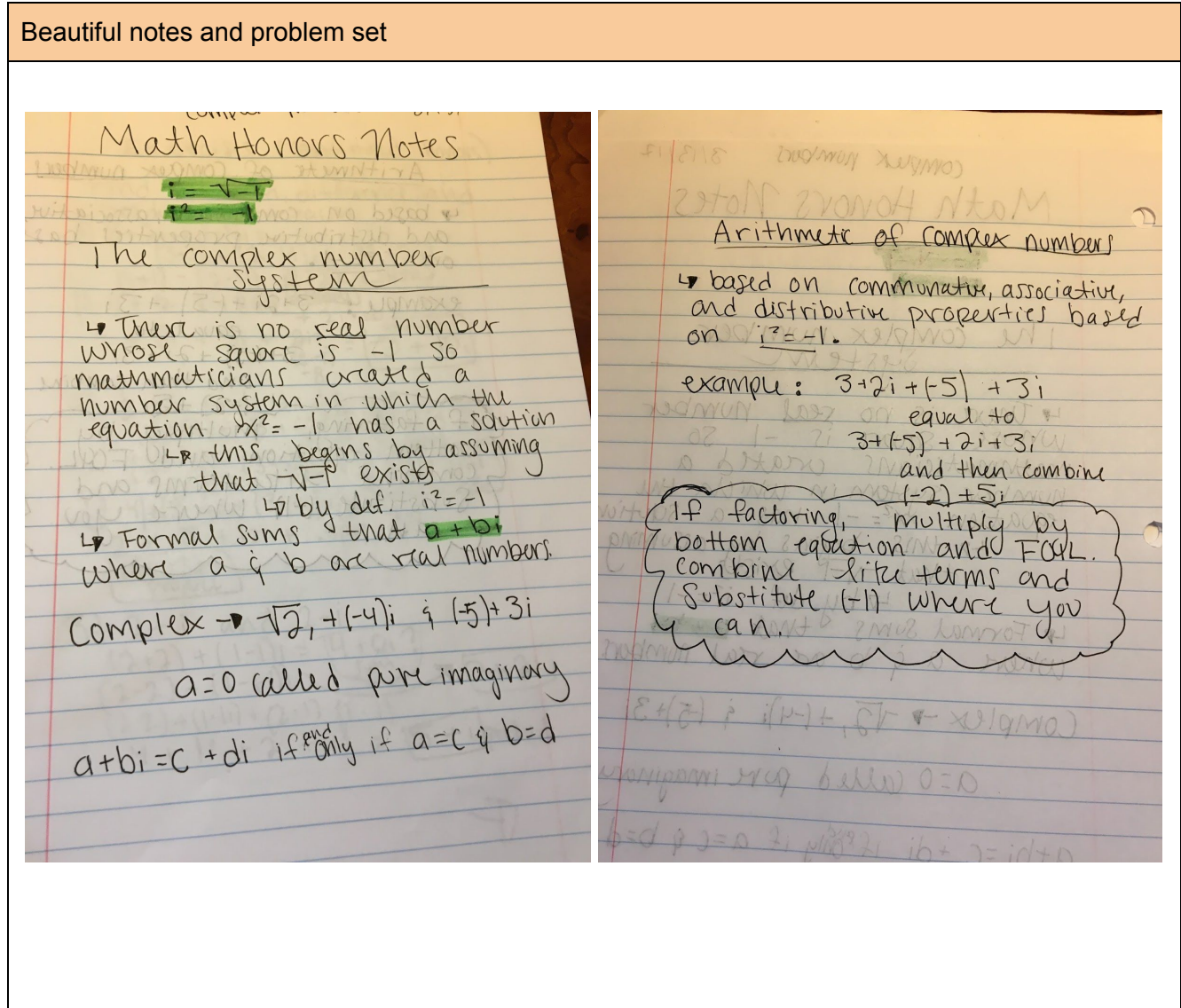


Math 3 Honors Pre-Calc: Functions Chapter

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There was nothing I really grappled with in this chapter, I was already familiar with the concept so it was primarily a refresher. To complete this set of notes I used organization while solving the problems so everything could be easily understood.



Exercises (continued Honors)

Find the sum, difference, and product for each.

1) $3+2i+1-4i = 4-2i$ (sum)
 $(3+1) + (2-4)i = 4-2i$
 $(3+1) - (2-4)i = 2+2i$ (difference)
 $(3 \cdot 1) + (2 \cdot 4) + 2i$
 $3 + 8i + 2i + 8i^2 = 11 + 10i$ (product)

2) $\frac{1}{2} + 3i$ and $4 + \frac{1}{3}i$
 $(\frac{1}{2} + 4) + (3 + \frac{1}{3})i = 4\frac{1}{2} + 3\frac{1}{3}i$ (sum)
 $(\frac{1}{2} - 4) - (3 - \frac{1}{3})i = -3\frac{1}{2} - 2\frac{2}{3}i$ (difference)
 $(\frac{1}{2} \cdot 4) + (3 \cdot \frac{1}{3}) + (3i \cdot 4) + (3i \cdot \frac{1}{3}i)$
 $2 + 1 + 12i + 1i^2 = 3 + 13i$ (product)

3) $2+i$ and $2-i$
 $(2+2) + (1-1)i = 4+0i = 4$ (sum)
 $(2-2) - (1-1)i = 0-0i = 0$ (difference)
 $(2 \cdot 2) + (1 \cdot 1) + (2 \cdot 1)i + (1 \cdot 2)i$
 $4 + 1 + 2 + 2i = 7 + 4i$ (product)

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4) $3i$ and $2-i$

$(3i)(2-i) = 6i - 3i^2 = 3+6i$
 $(3i) - (2-i) = 3i - 2 + i = 4i - 2$
 $(3i) + (2-i) = 3i + 2 - i = 2 + 2i$

These numbers are the same but used differently.

$(10 + 11i) + (1 + 2i) = 11 + 13i$
 $(10 + 11i) - (1 + 2i) = 9 + 9i$
 $(10 + 11i)(1 + 2i) = 10 + 20i + 11i + 22i^2 = 10 + 31i - 22 = -12 + 31i$

$(10 + 11i) + (1 + 2i) = 11 + 13i$
 $(10 + 11i) - (1 + 2i) = 9 + 9i$
 $(10 + 11i)(1 + 2i) = 10 + 20i + 11i + 22i^2 = 10 + 31i - 22 = -12 + 31i$