

11 1, 2, 4, 8, 20, 22, 26, 30

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12 4, 10, 22, 24, 28, 30,

HW 1

80

34, 38

Page 1

1.1

1. a true b. false c. false d. false e. true f. false

2. a true b. false c. false d. true e. true f. false

7. a $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

b $\{0, 1, -1, 2, -2, 3, -3\}$

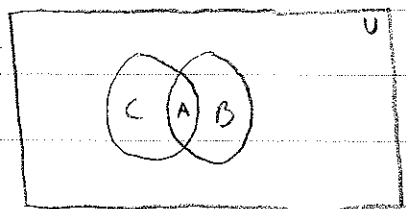
8. $A = \{x \mid 0 < x < 6, x^3 \in A\}$

20. $\{2, 3, 4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20, 21\}$

22. a false b true c false d true e true f false

26. a $P(A) = \{\emptyset, \{3\}, \{7\}, \{3, 7\}\}$ b. 2 c. 7

30.



1.2 1 a $A \cup B = \{a, b, c, g, d, e, f\}$

b $B \cup C = \{d, e, f, g, a, c\}$

c $A \cap C = \{a, c\}$

d $B \cap D = \{f\}$

e $(A \cup B) - C = \{b, g, d, e\}$

f $A - B = \{a, b, c, d, e, f\}$

g $\bar{A} = \{d, e, f, h, k\}$

h $A \oplus B = (A - B) \cup (B - A)$

$\{a, b, c\} \cup \{d, e, f\} = \{a, b, c, d, e, f\}$

i $A \oplus C = \{b, f, g\}$

j $(A \cap B) - C = \{g\} - C = \{g\}$

- hey, look at this way. I may have done the wrong problem here, but I'll do well on the quiz.

HW 1

page 2

24. a $285 + 195 + 115 - 95 - 70 - 50 = 430$ 2070 watch all 3

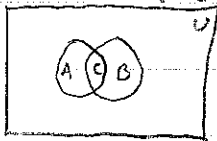
b 265 people watch only one sport 325

28. a 245, declared juniors

b all declared sophomores & juniors - 388

c declared sophomores - 143 677

32. a



b. C

c pick $x \in C$, show $x \in A \cup B$

since $C \subseteq A$, then $x \in A$

since $C \subseteq B$, then $x \in B$

thus $C \subseteq A \cup B$

34. -1

pick $x \in (A - (A \cap B))$, show $x \in B$

since $x \in A - B$, then $x \in A - (A \cap B)$

so $x \in A \cap B$, thus $x \in B$

38. If $A \subseteq B = A \subseteq C$, must $B \subseteq C$

- No, A is a subset of both B & C, however

B may not have the same elements as C,

therefore, B could not be a subset of C, but an intersection.

It is possible, though, that B could be a subset of C.

