

Valkuis 2012

$$1) A = \{8; 10; 12; 14; 16; 20; 22; 26; 28; 30\}$$

$$A = \{x \in \mathbb{N} \setminus \{18; 24\} \mid (x \geq 8 \wedge x \leq 30) \wedge x \bmod 2 = 0\}$$

$$B = \{6; 12; 18; 24; 30\}$$

$$B = \{x \in \mathbb{N} \mid x \bmod 6 = 0 \wedge x \leq 30\}$$

$$a) A \cap B = \boxed{\{12; 30\}} = \{x \in \mathbb{N} \setminus \{18; 24\} \mid (x \geq 12 \wedge x \leq 30) \wedge x \bmod 6 = 0\}$$

$$b) A \cup B = \{6; 8; \dots; 28; 30\}$$

$$= \{x \in \mathbb{N} \mid (x \geq 6 \wedge x \leq 30) \wedge x \bmod 2 = 0\}$$

$$c) A \setminus B = \{8; 10; 14; 16; 20; 22; 26; 28\}$$

$$= \{x \in \mathbb{N} \setminus \{12; 18; 24\} \mid (x \geq 8 \wedge x \leq 28) \wedge x \bmod 2 = 0\}$$

$$d) B \setminus A = \{6; 18; 24\} = \{x \in \mathbb{N} \setminus \{12\} \mid x \leq 24 \wedge x \bmod 6 = 0\}$$

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$$a) \quad \mathbb{N} = \{1; 2; \dots; 7; 8; 10\} = \{x \in \mathbb{N} \setminus \{9\} \mid x \leq 10\}$$

$$b) \quad \{3\}$$

$$c) \quad \{2\}$$

$$d) \quad \{4; 6; 8; 10\} = \{x \in \mathbb{N} \setminus \{2\} \mid x \bmod 2 = 0 \wedge x \leq 10\}$$

$$3) \quad a) \quad A \cap B = \{x \in \mathbb{Z} \mid |x| \leq 10 \wedge x \bmod 5 = 0\}$$

$$b) \quad A \cup B = \{\dots -15; -10; -9; \dots; 9; 10; 15 \dots\}$$

$$c) \quad A \setminus B = \{x \in \mathbb{Z} \setminus \{\pm 10; \pm 5; 0\} \mid x \bmod 5 = 0\}$$

$$d) \quad B \setminus A = \{\pm 9, \pm 8, \pm 7, \pm 6, \pm 4, \pm 3, \pm 2, \pm 1\}$$