

6.10

$$1) \overrightarrow{VA} = 3 \overrightarrow{VB}$$

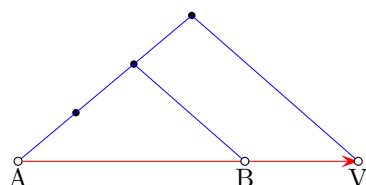
$$\overrightarrow{VA} = 3(\overrightarrow{VA} + \overrightarrow{AB})$$

$$\overrightarrow{VA} = 3\overrightarrow{VA} + 3\overrightarrow{AB}$$

$$-2\overrightarrow{VA} = 3\overrightarrow{AB}$$

$$2\overrightarrow{AV} = 3\overrightarrow{AB}$$

$$\overrightarrow{AV} = \frac{3}{2}\overrightarrow{AB}$$



$$2) \overrightarrow{WA} = -2 \overrightarrow{WB}$$

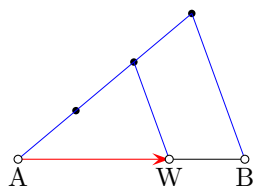
$$\overrightarrow{WA} = -2(\overrightarrow{WA} + \overrightarrow{AB})$$

$$\overrightarrow{WA} = -2\overrightarrow{WA} - 2\overrightarrow{AB}$$

$$3\overrightarrow{WA} = -2\overrightarrow{AB}$$

$$3\overrightarrow{AW} = 2\overrightarrow{AB}$$

$$\overrightarrow{AW} = \frac{2}{3}\overrightarrow{AB}$$



$$3) \overrightarrow{AX} = \frac{4}{5} \overrightarrow{XB}$$

$$\overrightarrow{XA} = -\frac{4}{5} \overrightarrow{XB}$$

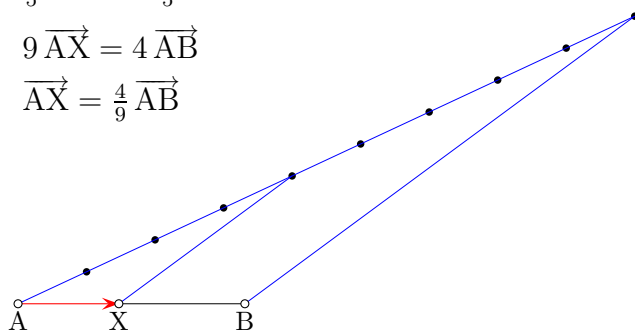
$$\overrightarrow{XA} = -\frac{4}{5}(\overrightarrow{XA} + \overrightarrow{AB})$$

$$\overrightarrow{XA} = -\frac{4}{5}\overrightarrow{XA} - \frac{4}{5}\overrightarrow{AB}$$

$$\frac{9}{5}\overrightarrow{XA} = -\frac{4}{5}\overrightarrow{AB}$$

$$9\overrightarrow{AX} = 4\overrightarrow{AB}$$

$$\overrightarrow{AX} = \frac{4}{9}\overrightarrow{AB}$$



$$4) \overrightarrow{AY} = -\frac{5}{4} \overrightarrow{YB}$$

$$\overrightarrow{YA} = \frac{5}{4} \overrightarrow{YB}$$

$$\overrightarrow{YA} = \frac{5}{4} (\overrightarrow{YA} + \overrightarrow{AB})$$

$$\overrightarrow{YA} = \frac{5}{4} \overrightarrow{YA} + \frac{5}{4} \overrightarrow{AB}$$

$$-\frac{1}{4} \overrightarrow{YA} = \frac{5}{4} \overrightarrow{AB}$$

$$\overrightarrow{AY} = 5 \overrightarrow{AB}$$

