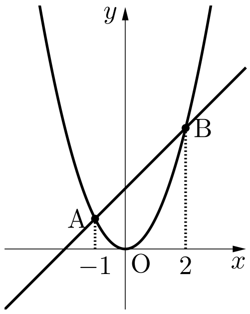
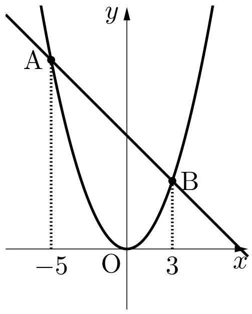
反射テスト　２次関数　直線の式〜傾きと切片　01

1.　次の直線 AB の直線の式を求めよ.（ S 級 1 分, A 級 1 分 40 秒, B 級 3 分, C 級 5 分 ）

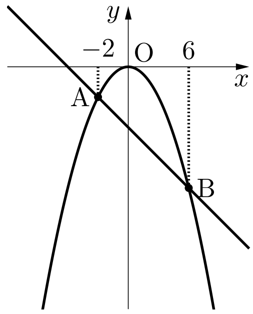
(1)　放物線 $y = x^2$



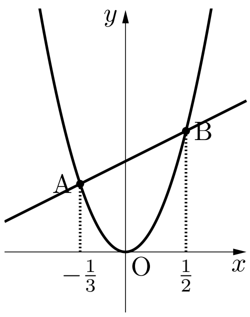
(2)　放物線 $y = 2x^2$



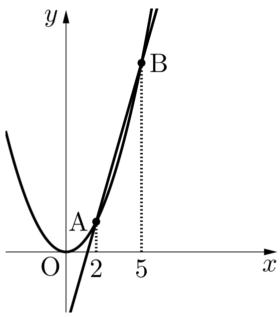
(3)　放物線 $y = -\frac{1}{6}x^2$



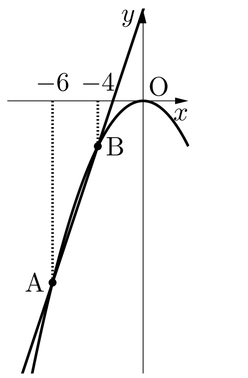
(4)　放物線 $y = \frac{6}{5}x^2$



(5)　放物線 $y = \frac{1}{2}x^2$

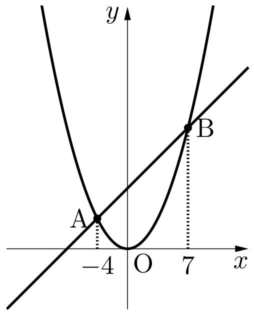


(6)　放物線 $y = -\frac{2}{3}x^2$

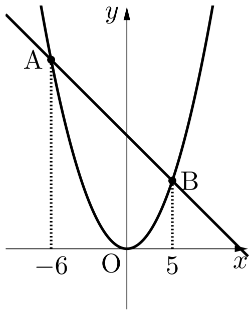


2. 次の直線 AB の直線の式を求めよ.(S 級 1 分, A 級 1 分 40 秒, B 級 3 分, C 級 5 分)

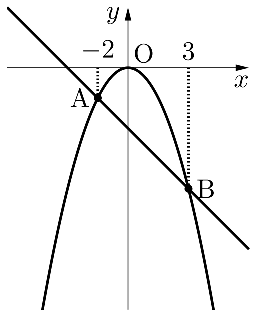
(1) 放物線 $y = x^2$



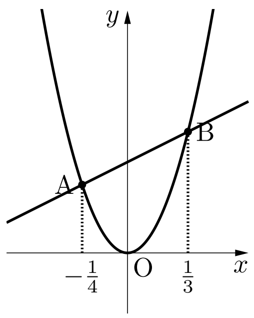
(2) 放物線 $y = 2x^2$



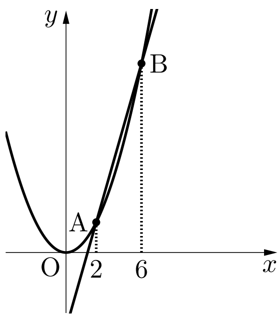
(3) 放物線 $y = -\frac{1}{4}x^2$



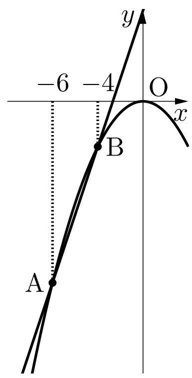
(4) 放物線 $y = \frac{6}{5}x^2$



(5) 放物線 $y = \frac{3}{2}x^2$

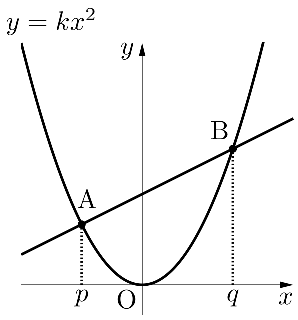


(6) 放物線 $y = -\frac{3}{8}x^2$



反射テスト　２次関数　直線の式〜傾きと切片　01　解答解説

1.　次の直線 AB の直線の式を求めよ．(S 級 1 分，A 級 1 分 40 秒，B 級 3 分，C 級 5 分)



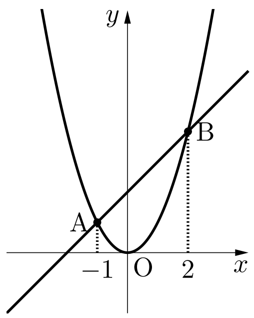
★ 2 次関数と直線

左図の直線 AB について次のことが成り立つ．

$$\begin{cases} \textbf{傾き}\ \text{は}\quad \boldsymbol{k(p+q)} \\ \textbf{切片}\ \text{は}\quad \boldsymbol{-kpq} \end{cases}$$

∴　直線 AB の式は　$y = \boldsymbol{k(p+q)}x + \boldsymbol{(-kpq)}$

(1)　放物線 $y = x^2$

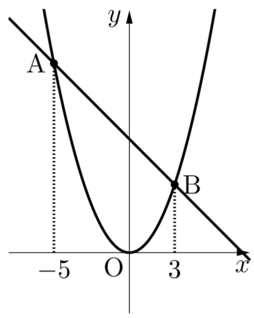


傾き　$1 \cdot (-1+2) = 1$

切片　$-1 \cdot 1 \cdot (-1) \cdot 2 = 2$

∴　$\boldsymbol{y = x + 2}$

(2)　放物線 $y = 2x^2$

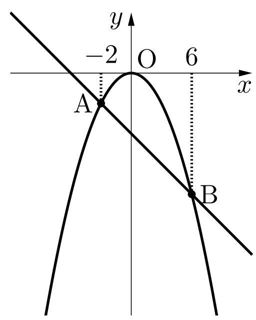


傾き　$2 \cdot (-5+3) = -4$

切片　$-1 \cdot 2 \cdot (-5) \cdot 3 = 30$

∴　$\boldsymbol{y = -4x + 30}$

(3)　放物線 $y = -\frac{1}{6}x^2$

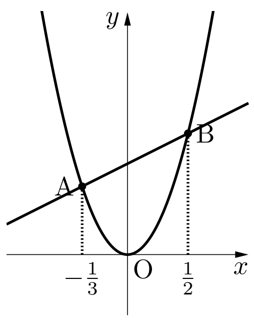


傾き　$-\frac{1}{6} \cdot (-2+6) = -\frac{2}{3}$

切片　$-1 \cdot \left(-\frac{1}{6}\right) \cdot (-2) \cdot 6 = -2$

∴　$\boldsymbol{y = -\frac{2}{3}x - 2}$

(4)　放物線 $y = \frac{6}{5}x^2$

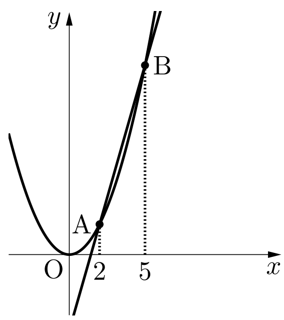


傾き　$\frac{6}{5} \cdot \left(-\frac{1}{3} + \frac{1}{2}\right) = \frac{1}{5}$

切片　$-1 \cdot \frac{6}{5} \cdot \left(-\frac{1}{3}\right) \cdot \frac{1}{2} = \frac{1}{5}$

∴　$\boldsymbol{y = \frac{1}{5}x + \frac{1}{5}}$

(5)　放物線 $y = \frac{1}{2}x^2$

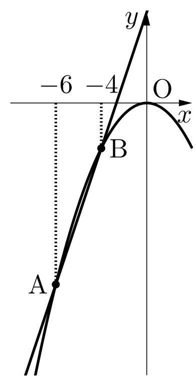


傾き　$\frac{1}{2} \cdot (2+5) = \frac{7}{2}$

切片　$-1 \cdot \frac{1}{2} \cdot 2 \cdot 5 = -5$

∴　$\boldsymbol{y = \frac{7}{2}x - 5}$

(6)　放物線 $y = -\frac{2}{3}x^2$



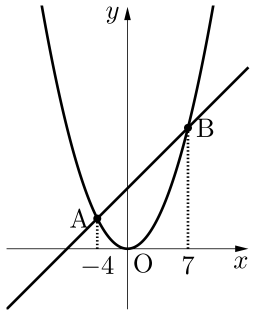
傾き　$-\frac{2}{3} \cdot (-6-4) = \frac{20}{3}$

切片　$-1 \cdot \left(-\frac{2}{3}\right) \cdot (-6) \cdot (-4) = 16$

∴　$\boldsymbol{y = \frac{20}{3}x + 16}$

2. 次の直線 AB の直線の式を求めよ.（ S 級 1 分, A 級 1 分 40 秒, B 級 3 分, C 級 5 分 ）

(1) 放物線 $y = x^2$

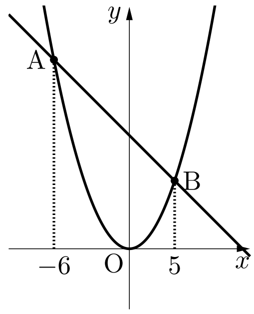


傾き $1 \cdot (-4+7) = 3$

切片 $-1 \cdot 1 \cdot (-4) \cdot 7 = 28$

$\therefore$ $\boldsymbol{y = 3x + 28}$

(2) 放物線 $y = 2x^2$

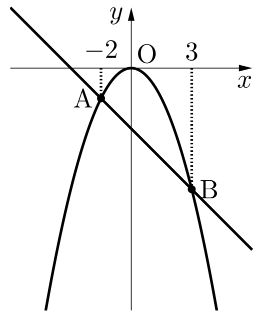


傾き $2 \cdot (-6+5) = -2$

切片 $-1 \cdot 2 \cdot (-6) \cdot 5 = 60$

$\therefore$ $\boldsymbol{y = -2x + 60}$

(3) 放物線 $y = -\dfrac{1}{4}x^2$

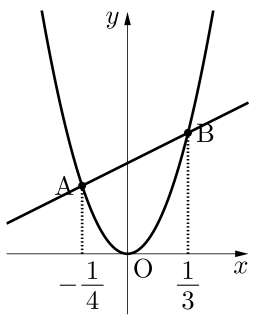


傾き $-\dfrac{1}{4} \cdot (-2+3) = -\dfrac{1}{4}$

切片 $-1 \cdot \left(-\dfrac{1}{4}\right) \cdot (-2) \cdot 3 = -\dfrac{3}{2}$

$\therefore$ $\boldsymbol{y = -\dfrac{1}{4}x - \dfrac{3}{2}}$

(4) 放物線 $y = \dfrac{6}{5}x^2$

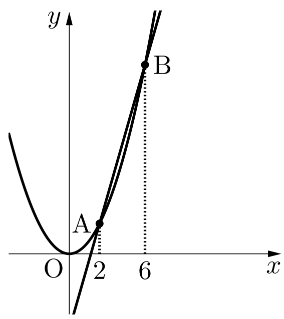


傾き $\dfrac{6}{5} \cdot \left(-\dfrac{1}{4} + \dfrac{1}{3}\right) = \dfrac{1}{10}$

切片 $-1 \cdot \dfrac{6}{5} \cdot \left(-\dfrac{1}{4}\right) \cdot \dfrac{1}{3} = \dfrac{1}{10}$

$\therefore$ $\boldsymbol{y = \dfrac{1}{10}x + \dfrac{1}{10}}$

(5) 放物線 $y = \dfrac{3}{2}x^2$

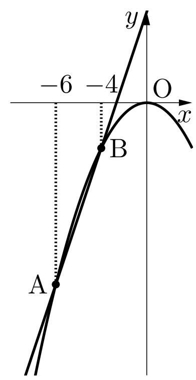


傾き $\dfrac{3}{2} \cdot (2+6) = 12$

切片 $-1 \cdot \dfrac{3}{2} \cdot 2 \cdot 6 = -18$

$\therefore$ $\boldsymbol{y = 12x - 18}$

(6) 放物線 $y = -\dfrac{3}{8}x^2$



傾き $-\dfrac{3}{8} \cdot (-6-4) = \dfrac{15}{4}$

切片 $-1 \cdot \left(-\dfrac{3}{8}\right) \cdot (-6) \cdot (-4) = 9$

$\therefore$ $\boldsymbol{y = \dfrac{15}{4}x + 9}$