

### 3.4.3 三角関数のグラフ

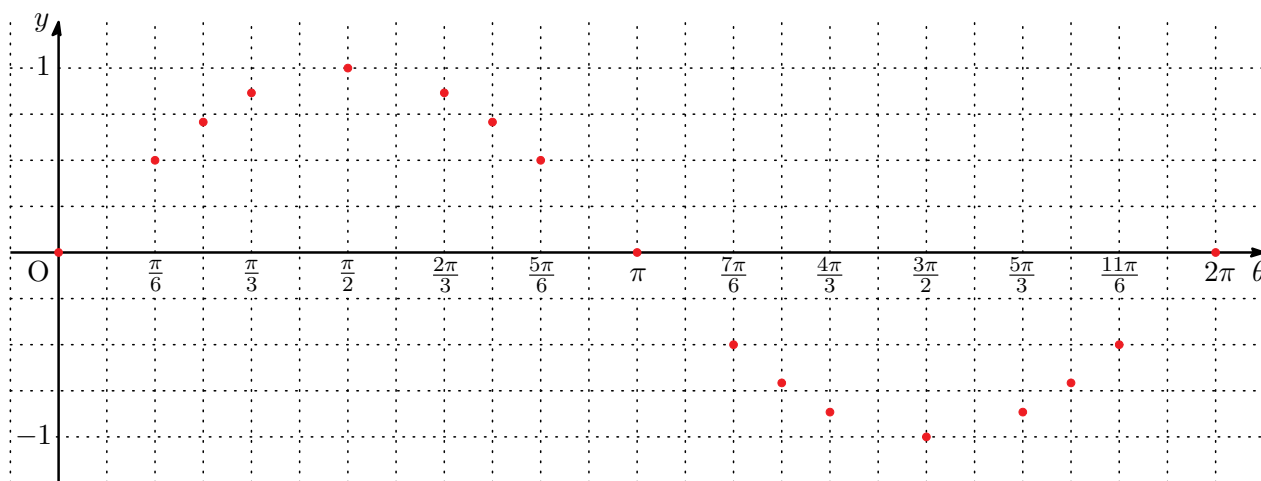
## 三角関数のグラフ

HRNO \_\_\_\_\_ 氏名 \_\_\_\_\_

問. 三角関数  $y = \sin \theta$ ,  $y = \cos \theta$ ,  $y = \tan \theta$  のグラフを書いてみよう!

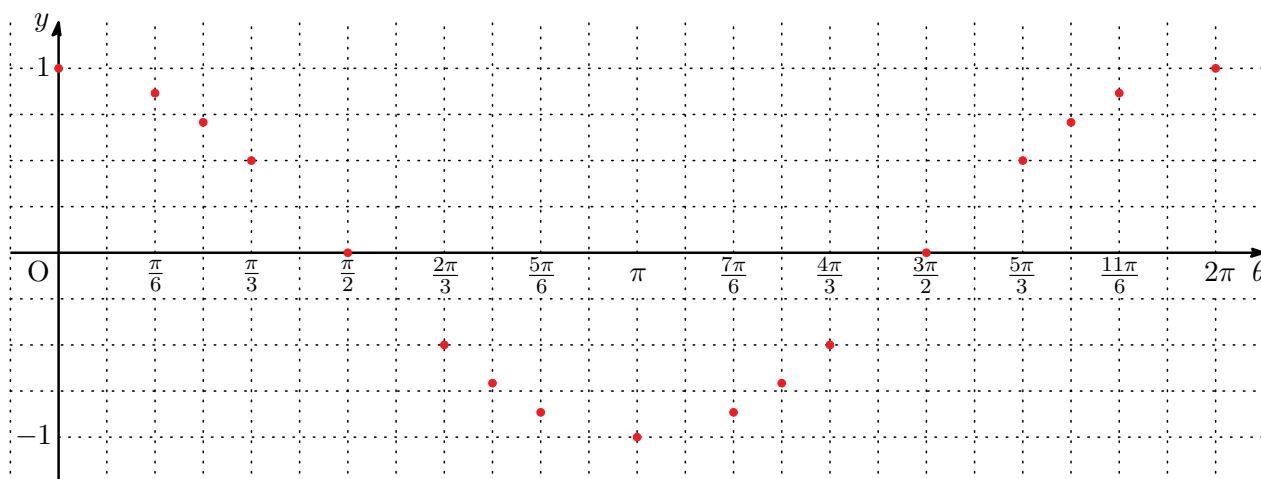
(1)  $y = \sin \theta$

| $\theta$      | 0 | $\frac{\pi}{6}$ | $\frac{\pi}{4}$      | $\frac{\pi}{3}$      | $\frac{\pi}{2}$ | $\frac{2}{3}\pi$     | $\frac{3}{4}\pi$     | $\frac{5}{6}\pi$ | $\pi$ | $\frac{7}{6}\pi$ | $\frac{5}{4}\pi$      | $\frac{4}{3}\pi$      | $\frac{3}{2}\pi$ | $\frac{5}{3}\pi$      | $\frac{7}{4}\pi$      | $\frac{11}{6}\pi$ | $2\pi$ |
|---------------|---|-----------------|----------------------|----------------------|-----------------|----------------------|----------------------|------------------|-------|------------------|-----------------------|-----------------------|------------------|-----------------------|-----------------------|-------------------|--------|
| $\sin \theta$ | 0 | $\frac{1}{2}$   | $\frac{1}{\sqrt{2}}$ | $\frac{\sqrt{3}}{2}$ | 1               | $\frac{\sqrt{3}}{2}$ | $\frac{1}{\sqrt{2}}$ | $\frac{1}{2}$    | 0     | $-\frac{1}{2}$   | $-\frac{1}{\sqrt{2}}$ | $-\frac{\sqrt{3}}{2}$ | -1               | $-\frac{\sqrt{3}}{2}$ | $-\frac{1}{\sqrt{2}}$ | $-\frac{1}{2}$    | 0      |



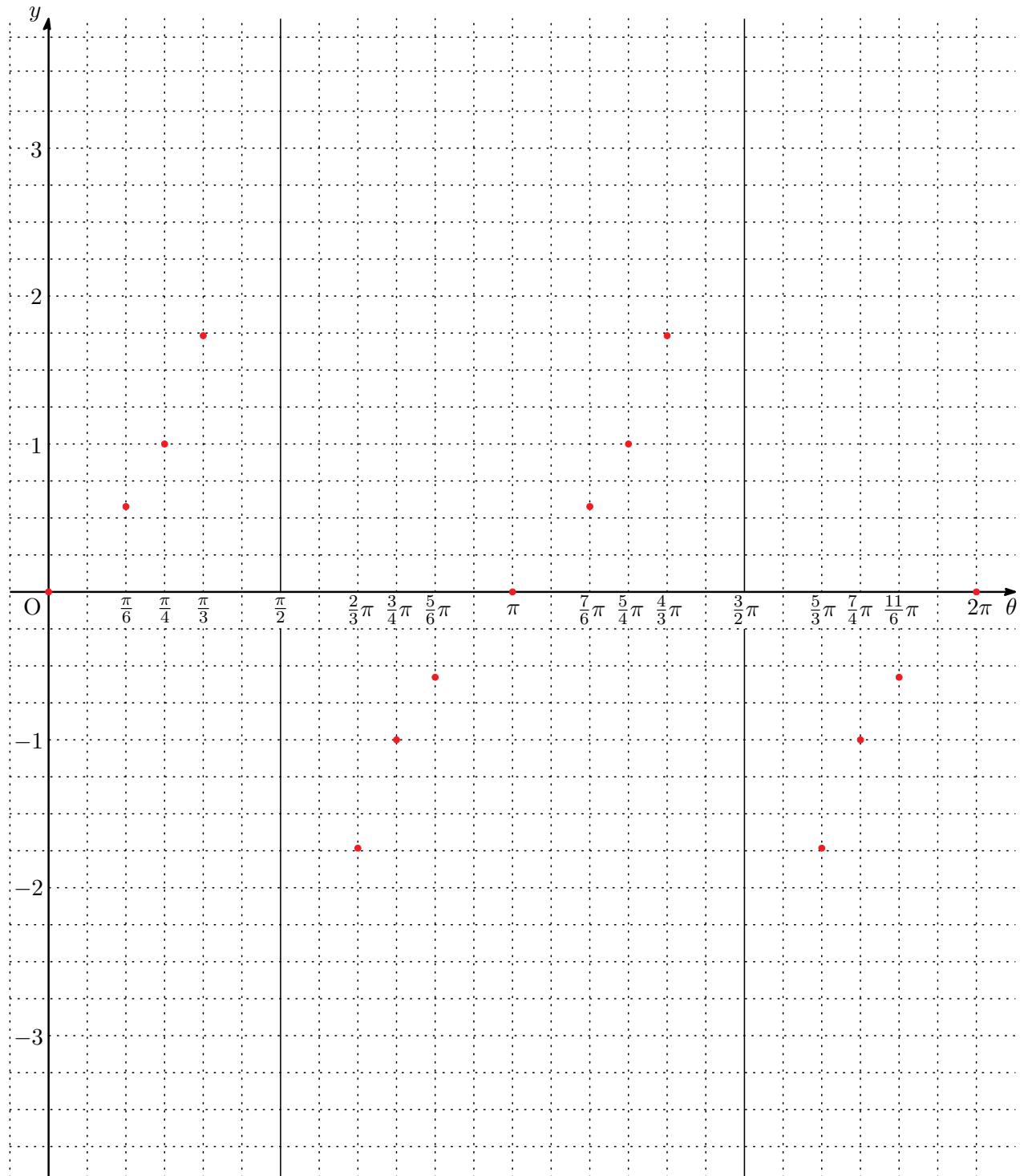
(2)  $y = \cos \theta$

| $\theta$      | 0 | $\frac{\pi}{6}$      | $\frac{\pi}{4}$      | $\frac{\pi}{3}$ | $\frac{\pi}{2}$ | $\frac{2}{3}\pi$ | $\frac{3}{4}\pi$      | $\frac{5}{6}\pi$      | $\pi$ | $\frac{7}{6}\pi$      | $\frac{5}{4}\pi$      | $\frac{4}{3}\pi$ | $\frac{3}{2}\pi$ | $\frac{5}{3}\pi$ | $\frac{7}{4}\pi$     | $\frac{11}{6}\pi$    | $2\pi$ |
|---------------|---|----------------------|----------------------|-----------------|-----------------|------------------|-----------------------|-----------------------|-------|-----------------------|-----------------------|------------------|------------------|------------------|----------------------|----------------------|--------|
| $\cos \theta$ | 1 | $\frac{\sqrt{3}}{2}$ | $\frac{1}{\sqrt{2}}$ | $\frac{1}{2}$   | 0               | $-\frac{1}{2}$   | $-\frac{1}{\sqrt{2}}$ | $-\frac{\sqrt{3}}{2}$ | -1    | $-\frac{\sqrt{3}}{2}$ | $-\frac{1}{\sqrt{2}}$ | $-\frac{1}{2}$   | 0                | $\frac{1}{2}$    | $\frac{1}{\sqrt{2}}$ | $\frac{\sqrt{3}}{2}$ | 1      |



(3)  $y = \tan \theta$

|               |   |                      |                 |                 |                 |                  |                  |                       |       |                      |                  |                  |                  |                  |                  |                       |        |
|---------------|---|----------------------|-----------------|-----------------|-----------------|------------------|------------------|-----------------------|-------|----------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|--------|
| $\theta$      | 0 | $\frac{\pi}{6}$      | $\frac{\pi}{4}$ | $\frac{\pi}{3}$ | $\frac{\pi}{2}$ | $\frac{2}{3}\pi$ | $\frac{3}{4}\pi$ | $\frac{5}{6}\pi$      | $\pi$ | $\frac{7}{6}\pi$     | $\frac{5}{4}\pi$ | $\frac{4}{3}\pi$ | $\frac{3}{2}\pi$ | $\frac{5}{3}\pi$ | $\frac{7}{4}\pi$ | $\frac{11}{6}\pi$     | $2\pi$ |
| $\tan \theta$ | 0 | $\frac{1}{\sqrt{3}}$ | 1               | $\sqrt{3}$      |                 | $-\sqrt{3}$      | -1               | $-\frac{1}{\sqrt{3}}$ | 0     | $\frac{1}{\sqrt{3}}$ | 1                | $\sqrt{3}$       |                  | $-\sqrt{3}$      | -1               | $-\frac{1}{\sqrt{3}}$ | 0      |



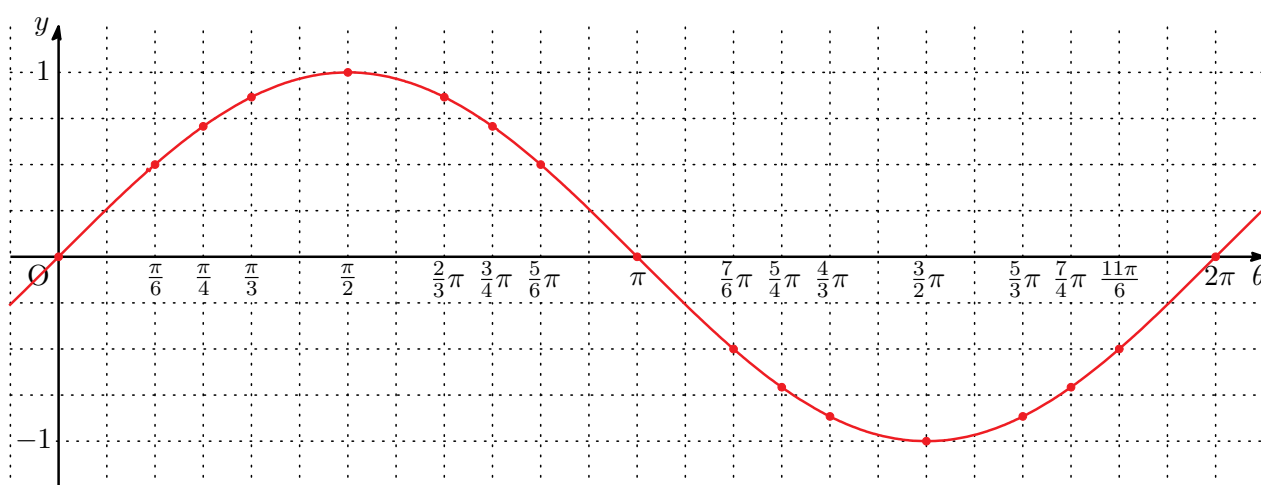
## 三角関数のグラフ

HRNO \_\_\_\_\_ 氏名 \_\_\_\_\_

問. 三角関数  $y = \sin \theta$ ,  $y = \cos \theta$ ,  $y = \tan \theta$  のグラフを書いてみよう！

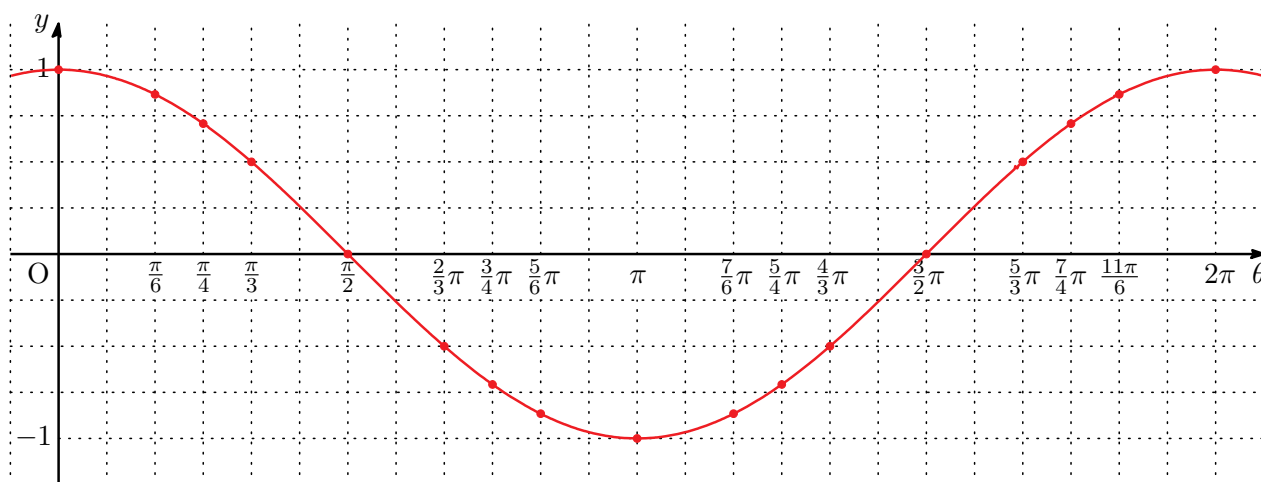
(1)  $y = \sin \theta$

| $\theta$      | 0 | $\frac{\pi}{6}$ | $\frac{\pi}{4}$      | $\frac{\pi}{3}$      | $\frac{\pi}{2}$ | $\frac{2}{3}\pi$     | $\frac{3}{4}\pi$     | $\frac{5}{6}\pi$ | $\pi$ | $\frac{7}{6}\pi$ | $\frac{5}{4}\pi$      | $\frac{4}{3}\pi$      | $\frac{3}{2}\pi$ | $\frac{5}{3}\pi$      | $\frac{7}{4}\pi$      | $\frac{11}{6}\pi$ | $2\pi$ |
|---------------|---|-----------------|----------------------|----------------------|-----------------|----------------------|----------------------|------------------|-------|------------------|-----------------------|-----------------------|------------------|-----------------------|-----------------------|-------------------|--------|
| $\sin \theta$ | 0 | $\frac{1}{2}$   | $\frac{1}{\sqrt{2}}$ | $\frac{\sqrt{3}}{2}$ | 1               | $\frac{\sqrt{3}}{2}$ | $\frac{1}{\sqrt{2}}$ | $\frac{1}{2}$    | 0     | $-\frac{1}{2}$   | $-\frac{1}{\sqrt{2}}$ | $-\frac{\sqrt{3}}{2}$ | -1               | $-\frac{\sqrt{3}}{2}$ | $-\frac{1}{\sqrt{2}}$ | $-\frac{1}{2}$    | 0      |



(2)  $y = \cos \theta$

| $\theta$      | 0 | $\frac{\pi}{6}$      | $\frac{\pi}{4}$      | $\frac{\pi}{3}$ | $\frac{\pi}{2}$ | $\frac{2}{3}\pi$ | $\frac{3}{4}\pi$      | $\frac{5}{6}\pi$      | $\pi$ | $\frac{7}{6}\pi$      | $\frac{5}{4}\pi$      | $\frac{4}{3}\pi$ | $\frac{3}{2}\pi$ | $\frac{5}{3}\pi$ | $\frac{7}{4}\pi$     | $\frac{11}{6}\pi$    | $2\pi$ |
|---------------|---|----------------------|----------------------|-----------------|-----------------|------------------|-----------------------|-----------------------|-------|-----------------------|-----------------------|------------------|------------------|------------------|----------------------|----------------------|--------|
| $\cos \theta$ | 1 | $\frac{\sqrt{3}}{2}$ | $\frac{1}{\sqrt{2}}$ | $\frac{1}{2}$   | 0               | $-\frac{1}{2}$   | $-\frac{1}{\sqrt{2}}$ | $-\frac{\sqrt{3}}{2}$ | -1    | $-\frac{\sqrt{3}}{2}$ | $-\frac{1}{\sqrt{2}}$ | $-\frac{1}{2}$   | 0                | $\frac{1}{2}$    | $\frac{1}{\sqrt{2}}$ | $\frac{\sqrt{3}}{2}$ | 1      |



(3)  $y = \tan \theta$

|               |   |                      |                 |                 |                 |                  |                  |                       |       |                      |                  |                  |                  |                  |                  |                       |        |
|---------------|---|----------------------|-----------------|-----------------|-----------------|------------------|------------------|-----------------------|-------|----------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|--------|
| $\theta$      | 0 | $\frac{\pi}{6}$      | $\frac{\pi}{4}$ | $\frac{\pi}{3}$ | $\frac{\pi}{2}$ | $\frac{2}{3}\pi$ | $\frac{3}{4}\pi$ | $\frac{5}{6}\pi$      | $\pi$ | $\frac{7}{6}\pi$     | $\frac{5}{4}\pi$ | $\frac{4}{3}\pi$ | $\frac{3}{2}\pi$ | $\frac{5}{3}\pi$ | $\frac{7}{4}\pi$ | $\frac{11}{6}\pi$     | $2\pi$ |
| $\tan \theta$ | 0 | $\frac{1}{\sqrt{3}}$ | 1               | $\sqrt{3}$      |                 | $-\sqrt{3}$      | -1               | $-\frac{1}{\sqrt{3}}$ | 0     | $\frac{1}{\sqrt{3}}$ | 1                | $\sqrt{3}$       |                  | $-\sqrt{3}$      | -1               | $-\frac{1}{\sqrt{3}}$ | 0      |

