0. Memorize all equations of lines and graphs of functions discussed in class.

1. #1 on p.8 of Spivak’s book.

2. Find the equations of the following straight lines:
   
   (1) the line with slope $-2$ and passing through the origin
   (2) the line with slope $3$ and passing through the $y$-intercept $-5$
   (3) the line with slope $-2$ and passing through the point $(-1, -4)$
   (4) the line passing through two points
   (5) the vertical line passing through $(3, 8)$
   (6) the horizontal line passing through $(2, -1)$
   (7) the $y$-axis
   (8) the $x$-axis

3. Find the arc length $\ell$ of a sector with angle $\theta$ radians inside the disc with radius $r$.

4. Find the following limits:
   
   (1) $\lim_{x \to 2} \frac{x^2 + 7x + 10}{x + 2} = \,
   (2) $\lim_{x \to \infty} \frac{1}{x - 1} = \,
   (3) $\lim_{x \to 1} \frac{x - 1}{\cos x} = \,
   (4) $\lim_{x \to \frac{\pi}{2}} \frac{x}{\cos x} = \,
   (5) $\lim_{x \to 0} \frac{\sin(3x)}{x} = \,

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