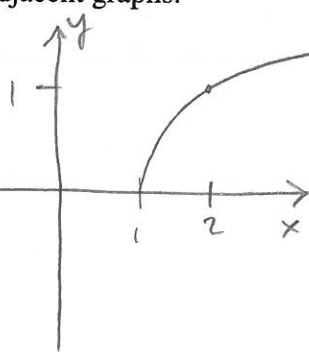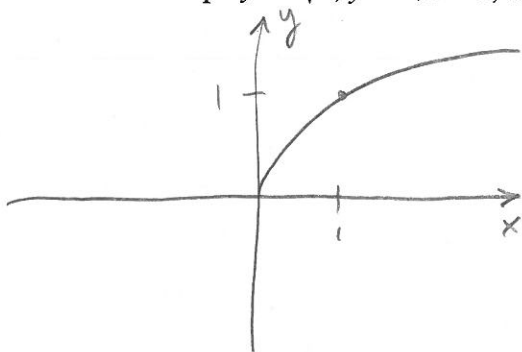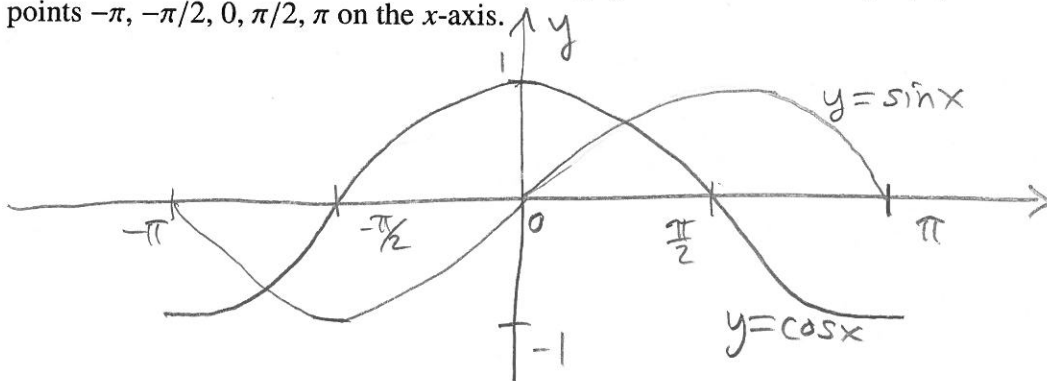Math F251: Sections 1.3–1.5 Worksheet

**1.** Graph $y = x^3$ and $y = x^{\frac{1}{3}}$ on adjacent graphs (i.e. distinct graphs, side-by-side).
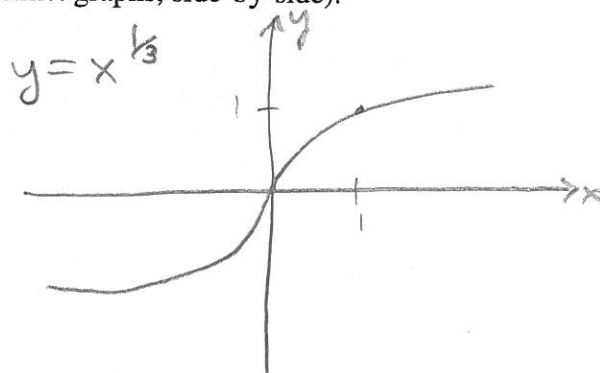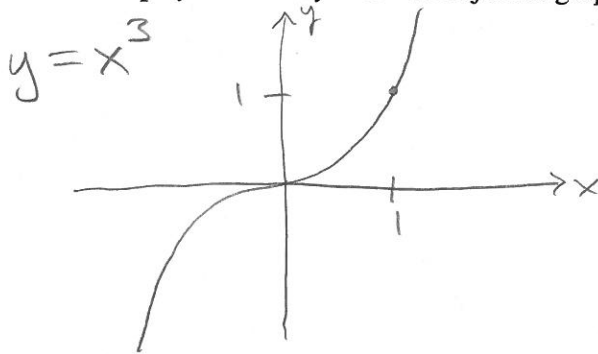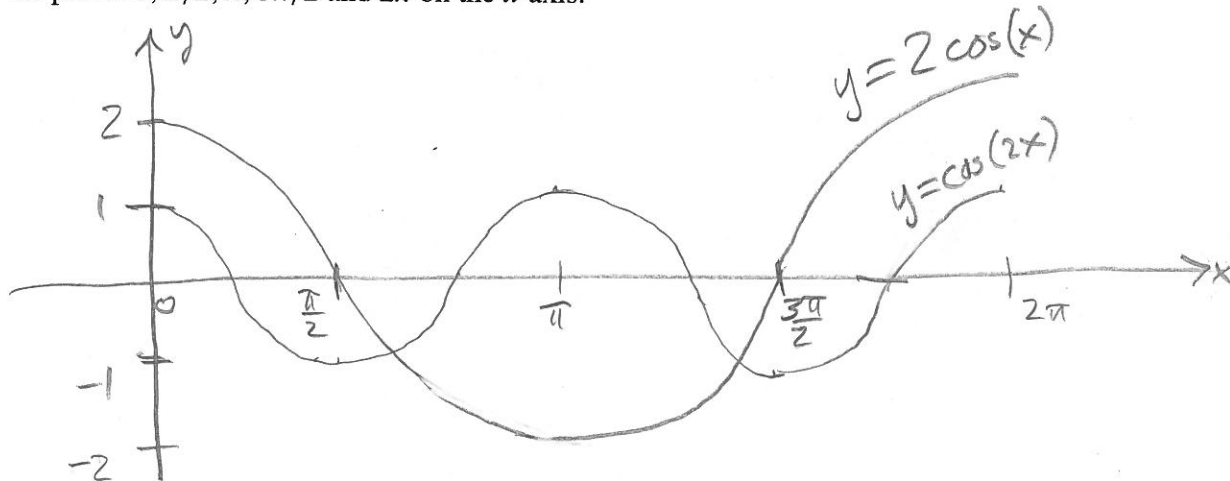


**2.** Graph $y = \sqrt{x}$, $y = \sqrt{x-1}$, and $y = \sqrt{-x}$ on adjacent graphs.
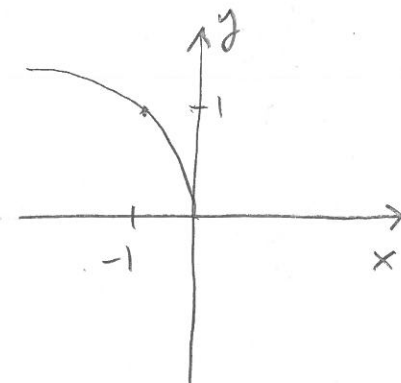


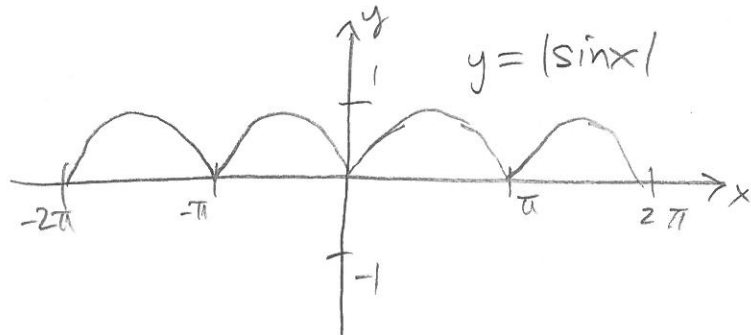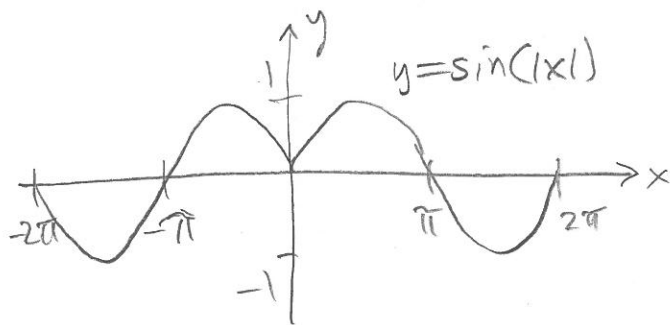**3.** Graph $y = \sin(x)$ and $y = \cos(x)$ on the same graph over the interval $[-\pi, \pi]$. Label the points $-\pi$, $-\pi/2$, $0$, $\pi/2$, $\pi$ on the $x$-axis.
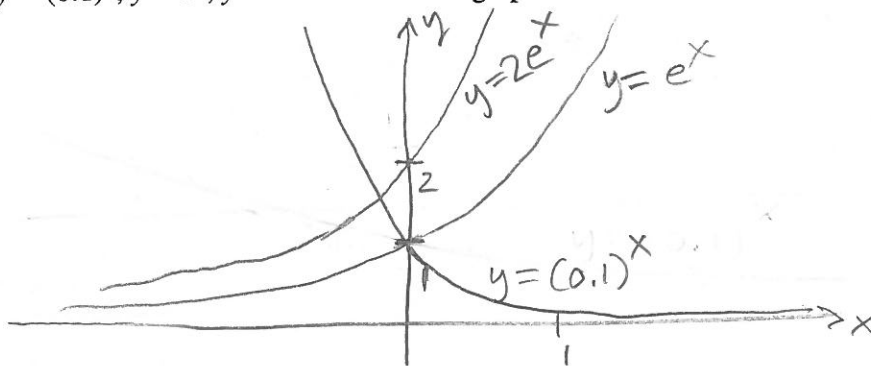


**4.** Graph $y = \cos(2x)$ and $y = 2\cos(x)$ over the interval $[0, 2\pi]$ on the same graph. Label the points $0$, $\pi/2$, $\pi$, $3\pi/2$ and $2\pi$ on the $x$-axis.
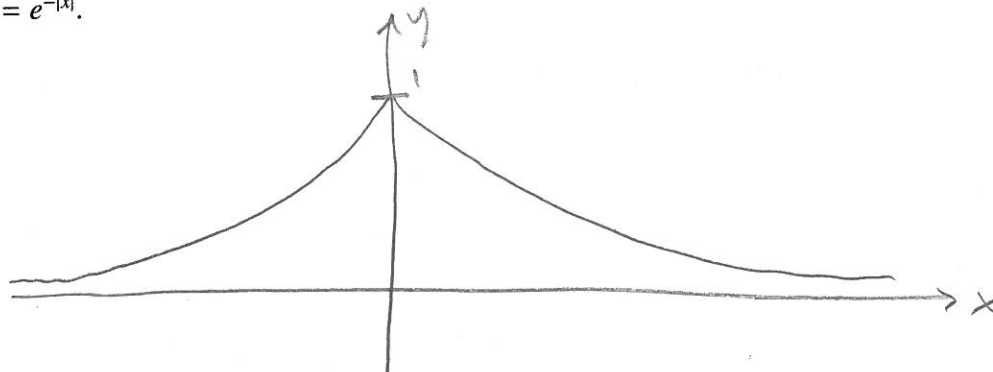
5. Graph $y = \sin(|x|)$ and $y = |\sin(x)|$ over the interval $[-2\pi, 2\pi]$ on adjacent graphs.

6. Graph $y = (0.1)^x$, $y = e^x$, $y = 2e^x$ on the same graph.

7. Graph $y = e^{-|x|}$.

8. Graph $y = \sin(x^2)$ and $y = \sin(1/x)$ on adjacent graphs.        *(challenging)*

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