Calculus 3 Workbook

Applications of double integrals

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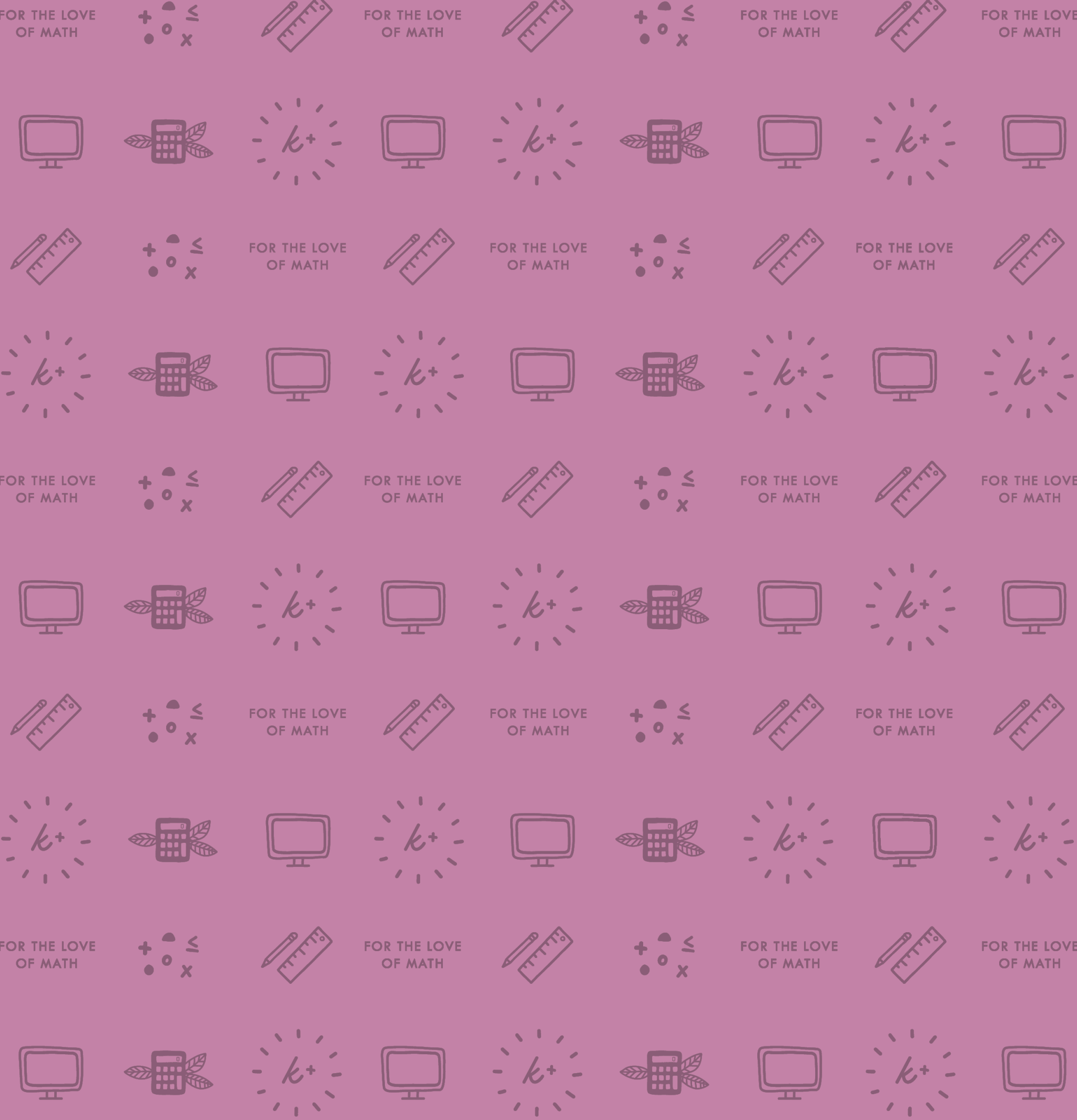
DOUBLE INTEGRALS TO FIND MASS AND CENTER OF MASS

■ 1. The circular disk with radius 12 has density $\delta = 1/(r+4)$, where r is the distance to the center of disk. Find the mass and center of mass of the disk.

■ 2. The rectangular plate with length 4 m and width 2 m has density $\delta = 2d$ kg/m^2, where d is the distance from its left 2 m side. Find the mass and center of mass of the plate.

■ 3. Some gas is distributed above the line with density $\delta = e^{-ad^2}$, where d is the distance to point A on the line, and a is a constant. Find the total mass of the gas and its center of mass.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