2 курс (геометрические приложения кратных интегралов)
Найти объем тела, заданного ограничивающими его поверхностями.

1. $y = 16\sqrt{2x},\ y = \sqrt{2x}, z = 0,\ x + z = 2.$
2. $y = 5\sqrt{x},\ y = \frac{5x}{3},\ z = 0,\ z = 5 + \frac{5\sqrt{x}}{3}.$
3. $x^2 + y^2 = 2,\ y = \sqrt{x},\ y = 0,\ z = 0,\ z = 15x.$
4. $x + y = 2,\ y = \sqrt{x},\ z = 12y,\ z = 0.$
5. $x = 20\sqrt{2y},\ x = 5\sqrt{2y},\ z = 0,\ z + y = \frac{1}{2}.$
6. $x = \frac{5\sqrt{y}}{2},\ x = \frac{5y}{6},\ z = 0,\ z = \frac{5}{6}(3 + \sqrt{y}).$
7. $x^2 + y^2 = 2,\ x = \sqrt{y},\ x = 0,\ z = 0,\ z = 30y.$
8. $x + y = 2,\ x = \sqrt{y},\ z = \frac{12x}{5},\ z = 0.$
9. $y = 17\sqrt{2x},\ y = 2\sqrt{2x},\ z = 0,\ x + z = \frac{1}{2}.$
10. $y = \frac{5\sqrt{x}}{3},\ y = \frac{5x}{9},\ z = 0,\ z = \frac{5(3+\sqrt{x})}{9}.$
11. $x^2 + y^2 = 8,\ y = \sqrt{2x},\ y = 0,\ z = 0,\ z = \frac{15x}{11}.$
12. $x + y = 4,\ y = \sqrt{2x},\ z = 3y,\ z = 0.$
13. $x = \frac{5}{6}\sqrt{y},\ x = \frac{5}{18}y,\ z = 0,\ z = \frac{5}{18}(3 + \sqrt{y}).$
14. $x = 19\sqrt{2y},\ x = 4\sqrt{2y},\ z = 0,\ z + y = 2.$
15. $x^2 + y^2 = 8,\ x = \sqrt{2y},\ x = 0,\ z = \frac{30y}{11},\ z = 0.$
16. $x + y = 4,\ x = \sqrt{2y},\ z = \frac{3x}{5},\ z = 0.$
17. $y = 6\sqrt{3x},\ y = \sqrt{3x},\ z = 0,\ x + z = 3.$
18. $y = \frac{5}{6}\sqrt{x},\ y = \frac{5}{18}x,\ z = 0,\ z = \frac{5}{18}(3 + \sqrt{x}).$
19. $x^2 + y^2 = 18,\ y = \sqrt{3x},\ y = 0,\ z = 0,\ z = \frac{5x}{11}.$
20. $x + y = 6,\ y = \sqrt{3x},\ z = 4y,\ z = 0.$
21. $x = 7\sqrt{3y},\ x = 2\sqrt{3y},\ z = 0,\ z + y = 3.$
22. $x = \frac{5\sqrt{y}}{3},\ x = \frac{5y}{9},\ z = 0,\ z = \frac{5(3+\sqrt{y})}{9}.$

23. $x^2 + y^2 = 18,\ x = \sqrt{3y},\ x = 0,\ z = 0,\ z = \frac{10y}{11}$.

24. $x + y = 6,\ x = \sqrt{3y},\ z = \frac{4x}{5},\ z = 0$.

25. $y = \sqrt{15x},\ y = \sqrt{15}x,\ z = 0,\ z = \frac{10y}{11}$.