

Honors Math 3
Systems of Equations in 3 Variables

Solve.

1. $3x = -12$
 $2x - y + 3z = -1$
 $3x + 4y - z = -7$

2. $4x + y = -7$
 $x - 2z = 4$
 $3y + 2z = -3$

3. $3x + 2y = 5$
 $4x = 3z + 7$
 $6y - 6z = -5$

4. $x - 3y = 0$
 $2x + y + 3z = 17$
 $x + 2y - 4z = 6$

5. $x + 2y - z = 5$
 $2x + z = -1$
 $3x - 4y - 2z = 7$

6. $-3x + 2y + 3z = 0$
 $3x - y + 4z = 0$
 $5x - 2y + 7z = 0$

7. $4c + d + e = 5$
 $3c + 3d - 2e = 22$
 $c - 2d - e = 3$

8. $-x - 2y + z = 7$
 $4x + y - z = -21$
 $2x - 3y - z = -7$

9. $x + 2y - z = 3$
 $3x + y + z = 2$
 $2x - 5y - z = 12$

10. $6a + 9b + 3c = 1$
 $4a + 6b + 2c = 4$
 $2a + b + 4c = 2$

11. $2x + 3y + z = -5$
 $x - y - 3z = -8$
 $3x + 2y + z = -4$

12. $x - 3y + 4z = 1$
 $5x + 5y - 8z = 1$
 $2x - 2y + 2z = 1$

13. $\frac{1}{3}x + \frac{1}{2}y + \frac{1}{4}z = 9$
 $\frac{1}{9}x + \frac{1}{3}y + \frac{1}{3}z = 7$
 $x + \frac{1}{6}y - \frac{1}{6}z = 8$

14. $2y = 8 - 3(x + z)$
 $-2(2y + z) = 7 - 5x$
 $3y - 8 = -2(2z + x)$

15. $p + q + 4r = 1$
 $-q + r = 2(1 + p)$
 $3(p + r) = 5 + 2q$

16. $2x + y = 3(3 + z)$
 $x - 2(y - 2z) = 5$
 $3x + y = 15 + 2z$

17. $x + y = 4$
 $x - y + z = 1$
 $w + x = 1$
 $-w + z = 2$

18. $-2w + x + 2y - z = 3$
 $w + 4z = 5$
 $w + 2x - y = 0$
 $x + y + z = 2$

19. $a + d = 3$
 $b + e = 4$
 $c + e = -4$
 $a + c + d = 0$
 $-b + c = -8$

20. $2a + b - c - d + 3e =$
 $4a - 2b + c - e = 7$
 $3b + 5c + d + e = 11$
 $5a - b + 2c - 4d - e =$
 $a + b + c + d + e = 6$

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| 1.
Answer: $(-4, 2, 3)$
CodePath: EAS.TRI.F.D.5 | 15.
Answer: $(\frac{1}{18}, -\frac{3}{2}, \frac{11}{18})$
CodePath: EAS.TRI.F.D.82 |
| 2.
Answer: $(-2, 1, -3)$
CodePath: EAS.TRI.F.D.9 | 16.
Answer: $(5, 2, 1)$
CodePath: EAS.TRI.F.D.88 |
| 3.
Answer: $(2, -\frac{1}{2}, \frac{1}{3})$
CodePath: EAS.TRI.F.D.13 | 17.
Answer: $(-1, 2, 2, 1)$
CodePath: EAS.TRI.F.D.98 |
| 4.
Answer: $(6, 2, 1)$
CodePath: EAS.TRI.F.D.21 | 18.
Answer: $(-3, 1, -1, 2)$
CodePath: EAS.TRI.F.D.104 |
| 5.
Answer: $(1, \frac{1}{2}, -3)$
CodePath: EAS.TRI.F.D.27 | 19.
Answer: $(1, 5, -3, 2, -1)$
CodePath: EAS.TRI.F.D.106 |
| 6.
Answer: $(0, 0, 0)$
CodePath: EAS.TRI.F.D.32 | 20.
Answer: $(1, -1, 2, 3, 1)$
CodePath: EAS.TRI.F.D.109 |
| 7.
Answer: $(2, 2, -5)$
CodePath: EAS.TRI.F.D.37 | |
| 8.
Answer: $(-5, -1, 0)$
CodePath: EAS.TRI.F.D.40 | |
| 9.
Answer: $(2, -1, -3)$
CodePath: EAS.TRI.F.D.46 | |
| 10.
Answer: \emptyset
CodePath: EAS.TRI.F.D.49 | |
| 11.
Answer: $(-1, -2, 3)$
CodePath: EAS.TRI.F.D.55 | |
| 12.
Answer: $(\frac{1}{2}, \frac{1}{2}, \frac{1}{2})$
CodePath: EAS.TRI.F.D.64 | |
| 13.
Answer: $(9, 6, 12)$
CodePath: EAS.TRI.F.D.69 | |
| 14.
Answer: $(1, -2, 3)$
CodePath: EAS.TRI.F.D.77 | |