

Honors Math 3
Systems of Equations

Solve by graphing.

1. $y = -x$
 $2y - 6x = 0$

2. $y = 4x$
 $x + 2y = 18$

3. $3x - 9y = 12$
 $-x + 3y + 4 = 0$

Solve by elimination or substitution.

4. $-3x + y = -3$
 $5x - 2y = 10$

5. $2x + y - 15 = 0$
 $5x - 6y + 22 = 0$

6. $-6x + 3y = -24$
 $4x - 2y = 12$

7. $8x + y - 2 = 0$
 $3x + \frac{1}{4}y = 0$

8. $\frac{1}{2}x - \frac{3}{2}y + 4 = 0$
 $x + 7y - 12 = 0$

9. $3x + y = -1$
 $\frac{9}{2}x - \frac{3}{4}y = 3$

10. $\frac{2}{3}x + \frac{5}{6}y = 1$
 $\frac{1}{3}x + \frac{4}{3}y = -5$

11. $5x - 6(y + 2) = 31$
 $6(x + 7) = 4 - 4y$

12. $\frac{x}{5} + \frac{y}{6} = 18$
 $\frac{x}{2} - \frac{y}{4} = 21$

13. $\frac{2}{3}x - y = 0$
 $\frac{3}{5}x = 1 + \frac{2}{5}y$

14. $\frac{y - 2}{x} = -\frac{2}{3}$
 $2 = \frac{x - 10}{y}$

15. $\frac{2x + 3}{5} + \frac{y + 4}{10} = \frac{3}{2}$
 $\frac{14x + 1}{3} - \frac{11y - 4}{7} = 4$

16. $3x + 5y - 4 = 5 + 2(x + y)$
 $2x - y = 3(3 - y) + x - y - 7$

17. $3(1 - x) - (4 - y) = 0$
 $(4 - x) - 3(1 - y) = 0$

18. $\frac{2}{3}(x - 3) - \frac{1}{2}(y - 4) = 5$
 $\frac{1}{4}(x - 4) + \frac{1}{3}(y - 3) = 3$

Solve.

19. $y = 4x^2 - 8$
 $y = 3x + 14$

20. $\frac{x^2}{4} + \frac{y^2}{9} = 1$
 $y = 2$

21. $x^2 + y^2 = 20$
 $x - 3y - 10 = 0$

22. $2x = 30 - 2y$
 $(x - 8)^2 + y^2 = 29$

23. $x^2 - y^2 = 16$
 $2y = x + 1$

24. $4x^2 + y^2 = 13$
 $2x - y = 1$

25. $\frac{x^2}{4} - \frac{y^2}{16} = 1$
 $y = x$

26. $4x^2 + xy + y^2 = 16$
 $3x + y = 4$

27. $2x^2 - 2xy + 6y^2 = 10$
 $y = x - 2$

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| <p>1.
 Answer: $(0, 0)$
 CodePath: EAS.ALG.Q.A.11</p> <p>2.
 Answer: $(2, 8)$
 CodePath: EAS.ALG.Q.A.54</p> <p>3.
 Answer: coincide
 CodePath: EAS.ALG.Q.A.138</p> <p>4.
 Answer: $(-4, -15)$
 CodePath: EAS.ALG.Q.B.15</p> <p>5.
 Answer: $(4, 7)$
 CodePath: EAS.ALG.Q.B.18</p> <p>6.
 Answer: \emptyset
 CodePath: EAS.ALG.Q.B.50</p> <p>7.
 Answer: $(-\frac{1}{2}, 6)$
 CodePath: EAS.ALG.Q.B.90</p> <p>8.
 Answer: $(-2, 2)$
 CodePath: EAS.ALG.Q.B.93</p> <p>9.
 Answer: $(\frac{1}{3}, -2)$
 CodePath: EAS.ALG.Q.B.96</p> <p>10.
 Answer: $(9, -6)$
 CodePath: EAS.ALG.Q.B.100</p> <p>11.
 Answer: $(-1, -8)$
 CodePath: EAS.TRI.F.C.8</p> <p>12.
 Answer: $(60, 36)$
 CodePath: EAS.TRI.F.C.25</p> <p>13.
 Answer: $(3, 2)$
 CodePath: EAS.TRI.F.C.32</p> | <p>14.
 Answer: $(6, -2)$
 CodePath: EAS.TRI.F.C.60</p> <p>15.
 Answer: $(1, 1)$
 CodePath: EAS.TRI.F.C.64</p> <p>16.
 Answer: \emptyset
 CodePath: EAS.TRI.F.C.97</p> <p>17.
 Answer: $(-\frac{1}{2}, -\frac{1}{2})$
 CodePath: EAS.TRI.F.C.106</p> <p>18.
 Answer: $(12, 6)$
 CodePath: EAS.TRI.F.C.116</p> <p>19.
 Answer: $(-2, 8), (\frac{11}{4}, \frac{89}{4})$
 CodePath: EAS.TRI.J.H.12</p> <p>20.
 Answer: $(\frac{2\sqrt{5}}{3}, 2), (-\frac{2\sqrt{5}}{3}, 2)$
 CodePath: EAS.TRI.J.H.19</p> <p>21.
 Answer: $(-2, -4), (4, -2)$
 CodePath: EAS.TRI.J.H.23</p> <p>22.
 Answer: $(13, 2), (10, 5)$
 CodePath: EAS.TRI.J.H.31</p> <p>23.
 Answer: $(5, 3), (-\frac{13}{3}, -\frac{5}{3})$
 CodePath: EAS.TRI.J.H.34</p> <p>24.
 Answer: $(\frac{3}{2}, 2), (-1, -3)$
 CodePath: EAS.TRI.J.H.40</p> <p>25.
 Answer: $(\frac{4\sqrt{3}}{3}, \frac{4\sqrt{3}}{3}), (-\frac{4\sqrt{3}}{3}, -\frac{4\sqrt{3}}{3})$
 CodePath: EAS.TRI.J.H.43</p> <p>26.
 Answer: $(2, -2), (0, 4)$
 CodePath: EAS.TRI.J.H.56</p> <p>27.
 Answer: $(\frac{7}{3}, \frac{1}{3}), (1, -1)$
 CodePath: EAS.TRI.J.H.54</p> |
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