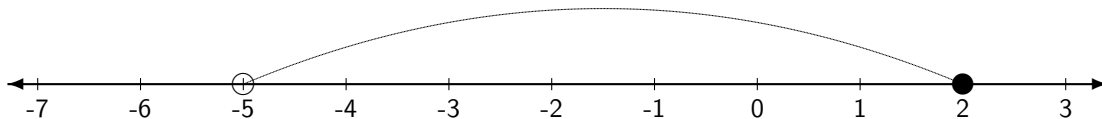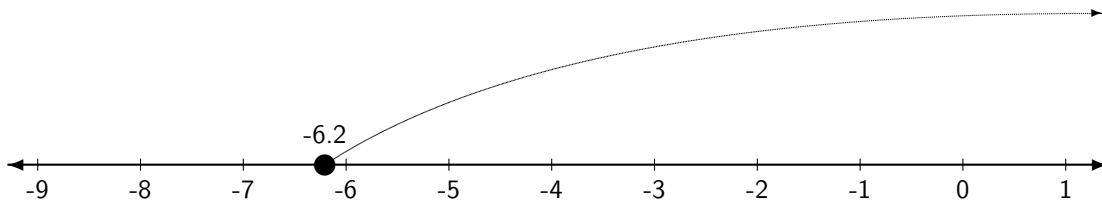1. (**1**) $2\sqrt{15}$

    (**2**) $y = 7$

    (**3**) In interval form the answer is $(-5, 2]$ and on a real line the answer is:

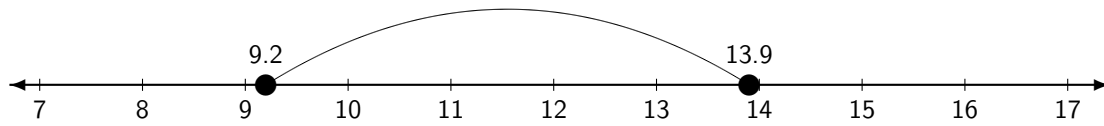   (**4**) In inequality form the answer is $x \geq -6.2$ and on a real line the answer is:

    (**5**) $y = 54$

    (**6**) $y = -1$

    (**7**) $z = -\dfrac{2}{3}$

    (**8**) $21y + 9y^2$

    (**9**) $y = -\dfrac{4}{3}$ and $y = 0$

  (**10**) $9 + 6\sqrt{2} + 3\sqrt{3} + 2\sqrt{6}$

  (**11**) $y = 0$

  (**12**) $\sqrt{15} + \sqrt{30}$

  (**13**) $-3z^2 - 15z + 18$

  (**14**) $y = 20$

  (**15**) $x = -\dfrac{3}{2}$

  (**16**) $x = -1\dfrac{7}{10}$

2. (**1**) $2\sqrt{105}$

    (**2**) $x = 2$

    (**3**) In interval form the answer is $(-4, -2.9]$ and on a real line the answer is:

(4) In inequality form the answer is $9.2 \leq x \leq 13.9$ and on a real line the answer is:

(5) $x = 5$

(6) $x = -\dfrac{11}{2}$

(7) $y = \dfrac{4}{3}$

(8) $28z - 20z^2$

(9) $y = \dfrac{1}{5}$ and $y = -\dfrac{7}{5}$

(10) 0

(11) $z = -\dfrac{8}{5}$

(12) $\sqrt{14} + \sqrt{21}$

(13) $-30y^2 - 13y + 3$
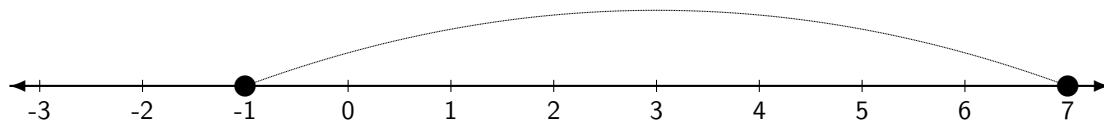
(14) $y = -\dfrac{2}{5}$

(15) $x = -\dfrac{3}{2}$
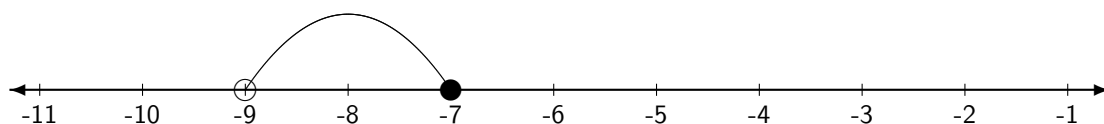
(16) $y = 1\dfrac{1}{26}$

3. **(1)** $7\sqrt{5}$

(2) $y = 5$

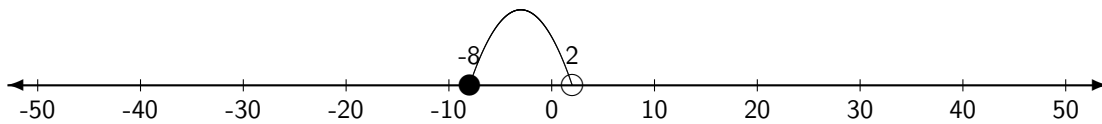**(3)** In interval form the answer is $[-1, 7]$ and on a real line the answer is:

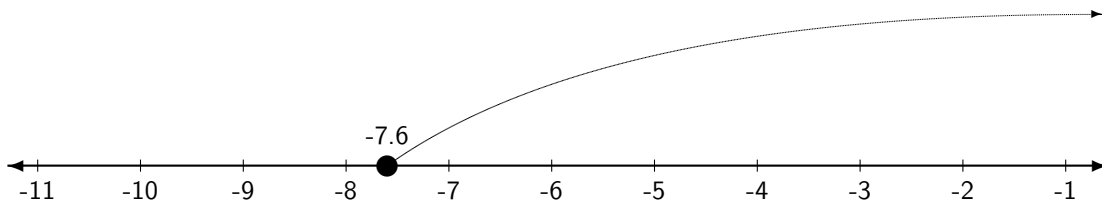**(4)** In inequality form the answer is $-9 < x \leq -7$ and on a real line the answer is:

(5) $x = 5$

(6) $x = 1$

(7) $x = \dfrac{1}{4}$

(8) $6y - 6y^2$

(9) $x = -\dfrac{1}{5}$

(10) $-4 + 4\sqrt{2} - 4\sqrt{3} + 2\sqrt{6}$

(11) $y = \dfrac{5}{2}$

(12) 0

(13) $-16z^2 + 16z + 21$

(14) $z = \dfrac{4}{5}$

(15) $y = -\dfrac{1}{2}$

(16) $x = -2\dfrac{1}{10}$

4. **(1)** $7\sqrt{5}$

    (2) $x = 2$

    (3) In interval form the answer is $[-8, 2.0)$ and on a real line the answer is:

    (4) In inequality form the answer is $x \geq -7.6$ and on a real line the answer is:

    (5) $x = 24$

    (6) $y = -\dfrac{1}{2}$

    (7) $x = -\dfrac{3}{2}$

    (8) $-20y - 20y^2$

    (9) $y = \dfrac{9}{5}$ and $y = -\dfrac{1}{5}$

    (10) $10\sqrt{2} + 5\sqrt{3}$

    (11) $y = \dfrac{1}{6}$

    (12) $2\sqrt{7} - 4\sqrt{2}$

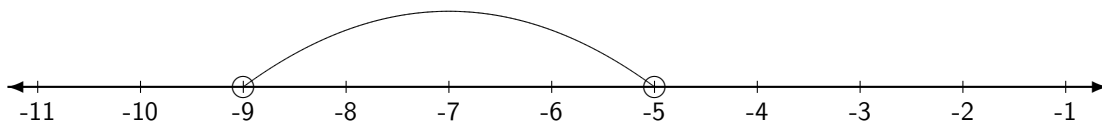**(13)** $15x^2 - 14x + 3$

(14) $x = -1$

(15) $y = -\dfrac{1}{7}$

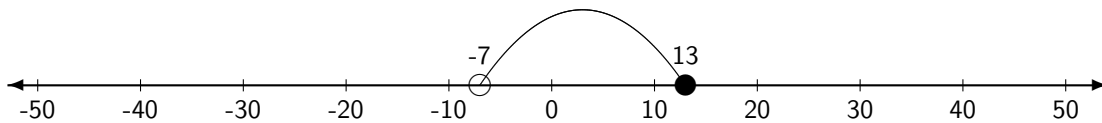**(16)** $x = \dfrac{4}{9}$

5. **(1)** $10\sqrt{2}$

(2) $x = 8$

(3) In interval form the answer is $(-9, -5)$ and on a real line the answer is:

(4) In inequality form the answer is $-7 < x \le 13$ and on a real line the answer is:

(5) $x = 117$

(6) $x = \dfrac{1}{3}$

(7) $x = 1$

(8) $-30z - 6z^2$

(9) $z = -2$ and $z = 0$

(10) $15 + 5\sqrt{6}$

(11) $z = -\dfrac{4}{5}$

(12) $\sqrt{14} + \sqrt{35}$

(13) $-12x^2 + 18x + 30$

(14) $y = -12$

(15) $y = -\dfrac{2}{3}$

(16) $x = -1\dfrac{1}{24}$

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