

## Summer Packet

**Solve each equation.**

1)  $91 = -4 - 5(1 + 5x)$

2)  $3(1 - 6n) + 2n = 99$

3)  $-92 = -2(-4x - 2) + 8x$

4)  $-4(3v + 7) = -100$

5)  $4n + 12 = -8(-8 - 7n)$

6)  $6(k + 2) - 6 = 1 + 7k$

7)  $-39 - 6x = -3(4 + 5x)$

8)  $8(2p + 7) = -24 + 6p$

**Solve each equation by factoring.**

9)  $n^2 = -48 + 14n$

10)  $7x^2 - 7x = 210$

11)  $v^2 - 16 = 6v$

12)  $b^2 = 16$

$$13) 24a^2 + 8 = -4a^2 + 36a$$

$$14) 18k^2 - 12k = 2 + 4k^2$$

**Solve each equation with the quadratic formula.**

$$15) 4x^2 - 3x - 1 = 0$$

$$16) 3r^2 + 3r - 36 = 0$$

$$17) n^2 - 7n + 4 = 0$$

$$18) 2x^2 + 6x - 1 = 0$$

**Solve each system by elimination.**

$$19) \begin{aligned} 18x - 3y &= -27 \\ -9x + 6y &= 0 \end{aligned}$$

$$20) \begin{aligned} -12x - 8y &= 12 \\ 6x + 4y &= -6 \end{aligned}$$

$$21) \begin{aligned} 3x - 2y &= -1 \\ -x + 7y &= -25 \end{aligned}$$

$$22) \begin{aligned} 2x - 2y &= -8 \\ 12x + y &= -9 \end{aligned}$$

**Solve each system by substitution.**

23)  $x + y = 5$   
 $3x + 3y = -5$

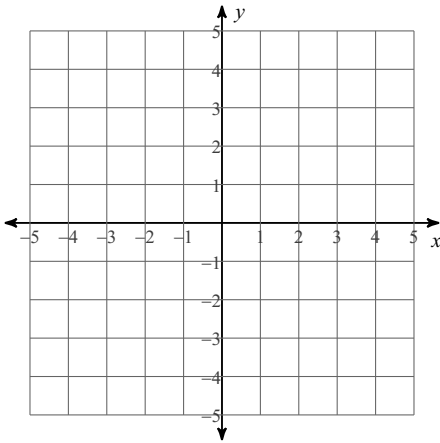
24)  $3x - 7y = 2$   
 $x - y = 2$

25)  $y = 1$   
 $-x - 3y = -11$

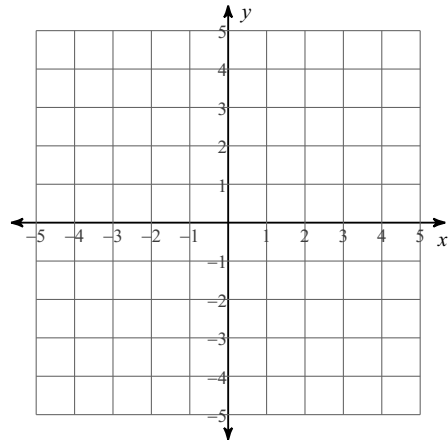
26)  $2x - 7y = -5$   
 $x - y = 0$

**Solve each system by graphing.**

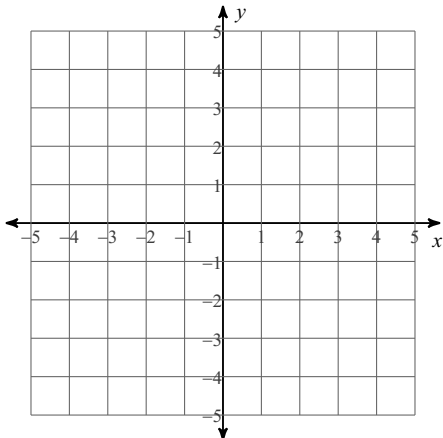
27)  $x = -4$   
 $y = -\frac{5}{4}x - 1$



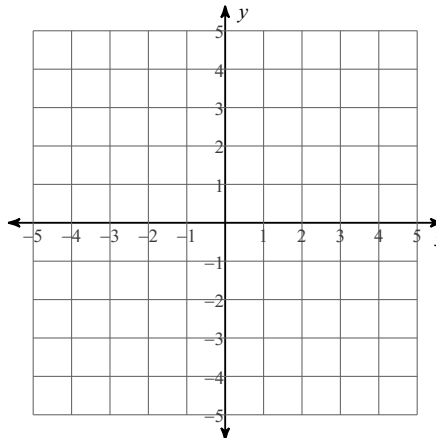
28)  $y = x - 2$   
 $y = -x + 4$



29)  $y = -2x - 3$   
 $y = -\frac{1}{3}x + 2$



30)  $y = x - 1$   
 $y = 6x + 4$



**Simplify. Your answers should not contain any negative exponents.**

31)  $3x^3 \cdot 2x^3 \cdot 2x^2$

32)  $(2n^3)^3$

33)  $\frac{r^3}{3r^2}$

34)  $x^5y^3 \cdot (x^{-4}y^{-1})^3$

35)  $(u^5v^{-4})^{-4} \cdot (v^5)^3$

36)  $x^2y^4 \cdot (x^5y^5)^0$

37)  $\frac{(x^4)^{-3} \cdot x^{-3}}{x^5y^{-2}}$

38)  $\frac{(a^3)^4}{a^3b^0 \cdot a^{-2}b^{-5}}$

**Simplify.**

39)  $\sqrt{48}$

40)  $\sqrt{75}$

41)  $\sqrt{12}$

42)  $\sqrt{45}$

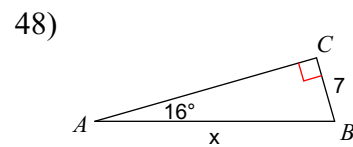
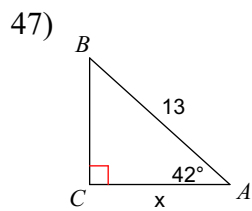
43)  $5\sqrt{72}$

44)  $7\sqrt{63}$

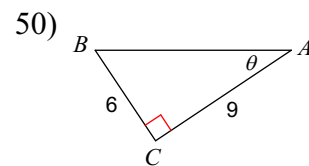
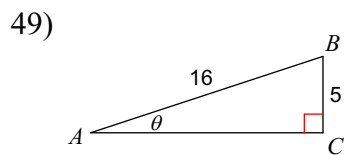
45)  $-4\sqrt{8}$

46)  $-2\sqrt{24}$

**Find the measure of each side indicated. Round to the nearest tenth.**



**Find the measure of each angle indicated. Round to the nearest tenth.**



## Answers to Summer Packet

- |   |   |                                      |                     |
|---|---|--------------------------------------|---------------------|
| 1) $\{-4\}$   | 2) $\{-6\}$   | 3) $\{-6\}$                          | 4) $\{6\}$          |
| 5) $\{-1\}$   | 6) $\{5\}$  | 7) $\{3\}$                           | 8) $\{-8\}$         |
| 9) $\{8, 6\}$   | 10) $\{-5, 6\}$   | 11) $\{-2, 8\}$                      | 12) $\{4, -4\}$     |
| 13) $\left\{\frac{2}{7}, 1\right\}$                                   | 14) $\left\{-\frac{1}{7}, 1\right\}$                                    | 15) $\left\{1, -\frac{1}{4}\right\}$ | 16) $\{3, -4\}$     |
| 17) $\left\{\frac{7 + \sqrt{33}}{2}, \frac{7 - \sqrt{33}}{2}\right\}$ | 18) $\left\{\frac{-3 + \sqrt{11}}{2}, \frac{-3 - \sqrt{11}}{2}\right\}$ | 19) $(-2, -3)$                       |                     |
| 20) Infinite number of solutions                                      | 21) $(-3, -4)$  | 22) $(-1, 3)$                        |                     |
| 23) No solution   | 24) $(3, 1)$  | 25) $(8, 1)$                         | 26) $(1, 1)$        |
| 27) $(-4, 4)$   | 28) $(3, 1)$  | 29) $(-3, 3)$                        | 30) $(-1, -2)$      |
| 31) $12x^8$   | 32) $8n^9$  | 33) $\frac{r}{3}$                    | 34) $\frac{1}{x^7}$ |
| 35) $\frac{v^{31}}{u^{20}}$   | 36) $x^2y^4$  | 37) $\frac{y^2}{x^{20}}$             | 38) $b^5a^{11}$     |
| 39) $4\sqrt{3}$   | 40) $5\sqrt{3}$   | 41) $2\sqrt{3}$                      | 42) $3\sqrt{5}$     |
| 43) $30\sqrt{2}$  | 44) $21\sqrt{7}$  | 45) $-8\sqrt{2}$                     | 46) $-4\sqrt{6}$    |
| 47) 9.7   | 48) 25.4  | 49) $18.2^\circ$                     | 50) $33.7^\circ$    |