

7th Grade Pre-Algebra Review - Summer Packet

Instructions for Summer Math Work

This packet is intended for students who have COMPLETED Pre-Algebra.

Please keep in mind:

1. This work is REVIEW. We have studied these topics during math class this year.
2. If you do NOT know your multiplication facts, this is the summer to memorize them! Find a website or flashcards, but it is time to know your facts. Algebra class will be much easier if you do this.
3. You do not need to complete the entire packet. Focus on what you need to practice. It's ok to do just half of the problems on each page.
4. Algebra curriculum does not include fraction or decimal computation. Please know how to add, subtract, multiply and divide fractions and decimals.
5. If you get stuck on a topic, find a youtube video to help. "MathAntics" and "Math with Mr. J" are both excellent resources on youtube to help!
6. Answer keys are provided in the same Google Drive folder.

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Pre-Algebra

Name _____ ID: 1

Computation Review

Date _____ Period _____

Evaluate each expression.

1) $(-30) + (-16.4)$

2) $(-30.8) + 12.8$

3) $13.6 - (-16.4)$

4) $(-1.9) + (-34.7)$

5) $13.6 - 5.4$

6) $32.3 - 41.8$

7) $7 + (-6) - (-4)$

8) $3 + 5 - 5$

9) $6 - (-3) - (-4)$

10) $2 - 3 + 6$

11) $6 - 6 + (-8)$

12) $6 - (-6) - 6$

13) $\left(-\frac{9}{7}\right) + \left(-2\frac{1}{2}\right)$

14) $\frac{9}{8} - \frac{4}{3}$

15) $\left(-2\frac{1}{7}\right) - 4\frac{1}{3}$

16) $\frac{1}{4} - \left(-2\frac{1}{3}\right)$

17) $\left(-2\frac{1}{6}\right) + \frac{1}{2}$

18) $\left(-3\frac{5}{6}\right) - \frac{7}{4}$

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Find each product.

19) $-1\frac{1}{2} \times 4\frac{1}{10}$

20) $-1\frac{1}{2} \times \frac{3}{8}$

21) $-3\frac{1}{2} \times -9$

22) $3\frac{7}{10} \times -3\frac{7}{8}$

23) -4.8×5.8

24) 9.5×-7.1

25) -2.2×-9.6

26) -3.6×-7.1

27) -20×-20

28) -17×13

Find each quotient.

29) $-5.8 \div 0.1$

30) $7.5 \div 0.1$

31) $6.6 \div 7.5$

32) $-9.5 \div 3.8$

33) $-35 \div 7$

34) $8 \div -2$

35) $-24 \div -6$

36) $8 \div -4$

37) $4\frac{2}{7} \div -2\frac{1}{9}$

38) $4\frac{2}{5} \div -2\frac{1}{3}$

39) $4\frac{5}{7} \div 2\frac{1}{8}$

40) $8\frac{3}{5} \div 4\frac{2}{5}$

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Combining Like Terms

Simplify each expression.

1) $-6k + 7k$

2) $12r - 8 - 12$

3) $n - 10 + 9n - 3$

4) $-4x - 10x$

5) $-r - 10r$

6) $-2x + 11 + 6x$

7) $11r - 12r$

8) $-v + 12v$

9) $-8x - 11x$

10) $4p + 2p$

11) $5n + 11n$

12) $n + 4 - 9 - 5n$

13) $12r + 5 + 3r - 5$

14) $-5 + 9n + 6$

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15) $n - 4 - 9$

16) $4n - n$

17) $-3x - 9 + 15x$

18) $-9k + 8k$

19) $-16n - 14n$

20) $15n - 19n$

21) $-4 + 7(1 - 3m)$

22) $-5n + 3(6 + 7n)$

23) $-2n - (9 - 10n)$

24) $10 - 5(9n - 9)$

25) $9a + 10(6a - 1)$

26) $-9(6m - 3) + 6(1 + 4m)$

27) $-10(1 - 9x) + 6(x - 10)$

28) $5(-2n + 4) + 2(n + 3)$

29) $-3(10b + 10) + 5(b + 2)$

30) $-7(n + 3) - 8(1 + 8n)$

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Single Step Equations: Don't forget that checking your answers with substitution is a great way to know if you are right!

Solve each equation.

$$41) m - 5\frac{1}{9} = \frac{17}{90}$$

$$42) \frac{3x}{11} = -\frac{21}{55}$$

$$43) -\frac{9}{11}m = -\frac{27}{44}$$

$$44) \frac{10}{11}n = -3\frac{2}{11}$$

$$45) \frac{8}{7}x = 2$$

$$46) 2\frac{5}{6} + k = 1\frac{1}{2}$$

$$47) \frac{2}{3}n = -\frac{2}{27}$$

$$48) v - \frac{3}{5} = -\frac{3}{5}$$

$$49) \frac{10n}{27} = \frac{4}{27}$$

$$50) m - \frac{2}{7} = 7\frac{5}{7}$$

$$51) x - 7.01 = -14.01$$

$$52) \frac{x}{1.4} = -2.1$$

$$53) a - 3.7 = -4$$

$$54) r + 3.8 = 3.4$$

$$55) \frac{m}{1.7} = -7.2$$

$$56) x - 7.5 = -9.7$$

$$57) \frac{x}{7} = -2.5$$

$$58) \frac{b}{3.5} = 3.5$$

$$59) \frac{x}{9.6} = -7.1$$

$$60) 4.9 + n = 11.9$$

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Multi-Step Equations

Solve each equation.

SKIP #5, 8, 19

1) $-20 = -4x - 6x$

2) $6 = 1 - 2n + 5$

3) $8x - 2 = -9 + 7x$

4) $a + 5 = -5a + 5$

5) $4m - 4 = 4m$

6) $p - 1 = 5p + 3p - 8$

7) $5p - 14 = 8p + 4$

8) $p - 4 = -9 + p$

9) $-8 = -(x + 4)$

10) $12 = -4(-6x - 3)$

11) $14 = -(p - 8)$

12) $-(7 - 4x) = 9$

13) $-18 - 6k = 6(1 + 3k)$

14) $5n + 34 = -2(1 - 7n)$

15) $2(4x - 3) - 8 = 4 + 2x$

16) $3n - 5 = -8(6 + 5n)$

17) $-(1 + 7x) - 6(-7 - x) = 36$

18) $-3(4x + 3) + 4(6x + 1) = 43$

19) $24a - 22 = -4(1 - 6a)$

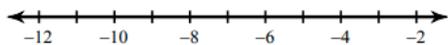
20) $-5(1 - 5x) + 5(-8x - 2) = -4x - 8x$

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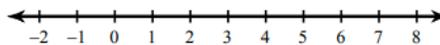
One-Step Inequalities

Solve each inequality and graph its solution.

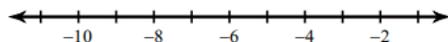
1) $-12 > x - 7$



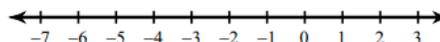
2) $-1 + r \geq 4$



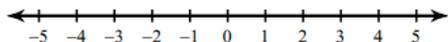
3) $n - 6 \leq -14$



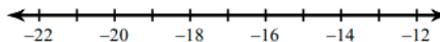
4) $b - 7 < -12$



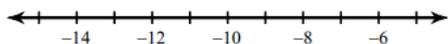
5) $a - 17 > -16$



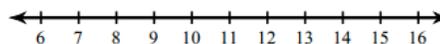
6) $15 + x \leq 0$



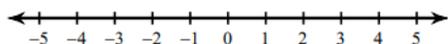
7) $3 + v \leq -9$



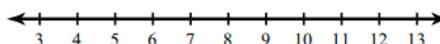
8) $8 \geq n - 6$



9) $-3x > 3$



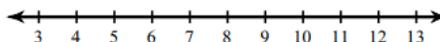
10) $\frac{n}{3} > 3$



11) $\frac{k}{4} < -4$



12) $-9x \geq -90$

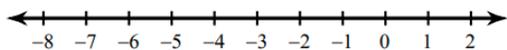


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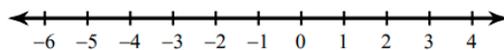
Multi-Step Inequalities

Solve each inequality and graph its solution.

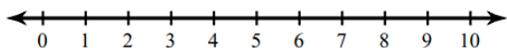
1) $3 < -5n + 2n$



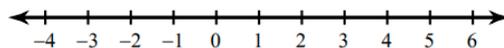
2) $6x + 2 + 6x < 14$



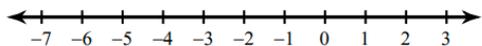
3) $-p - 4p > -10$



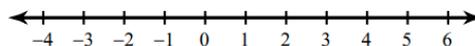
4) $18 \geq 5k + 4k$



17) $-5n + 6 \geq -7(5n - 6) - 6n$



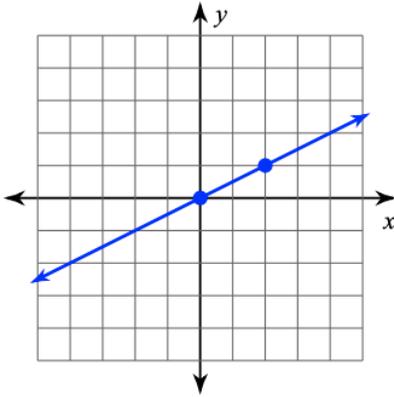
18) $3(p - 3) - 5p > -3p - 6$



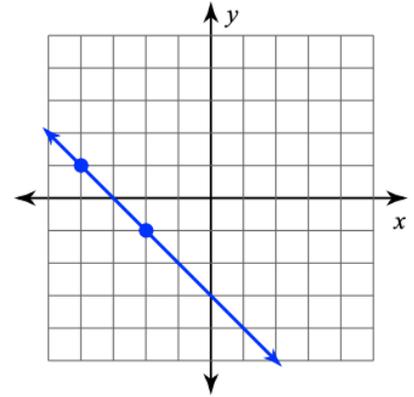
Finding Slope From a Graph

Find the slope of each line.

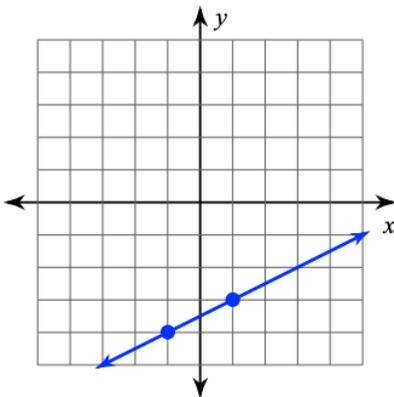
1)



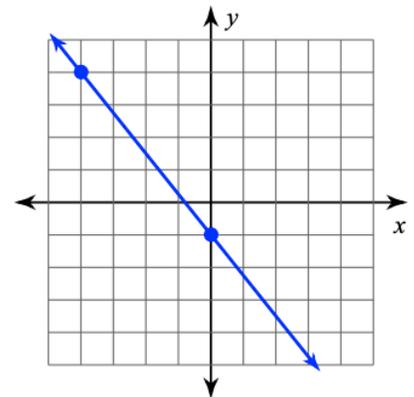
2)



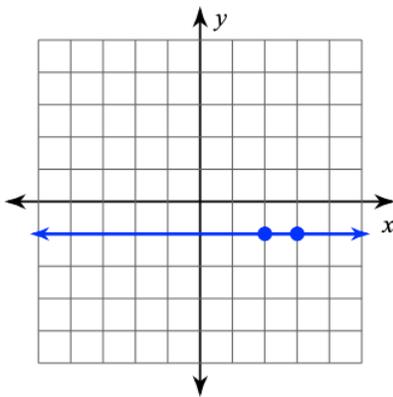
3)



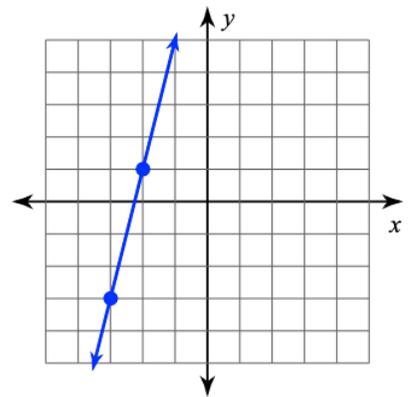
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5)



6)

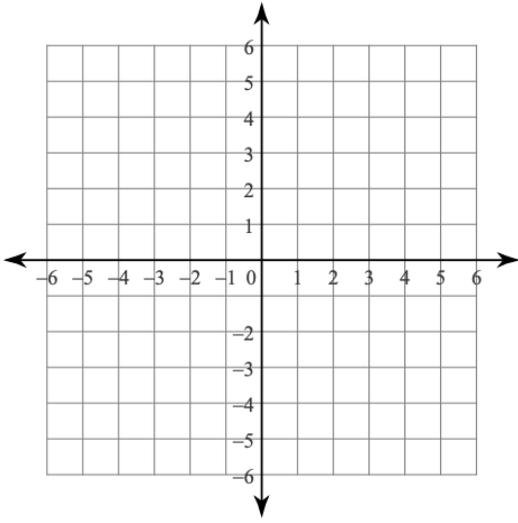


Graphing Linear Equations Using Slope-Intercept Method

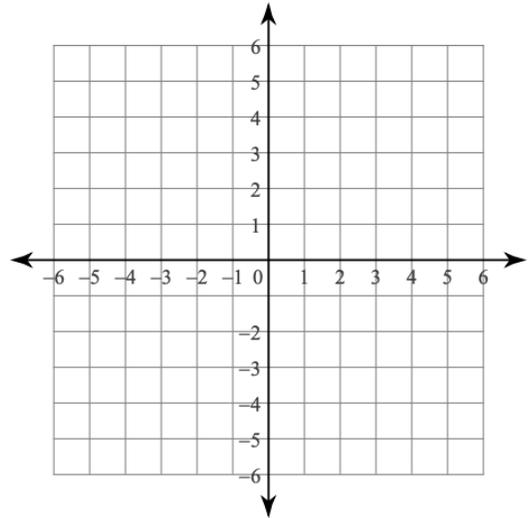
Sketch the graph of each line.

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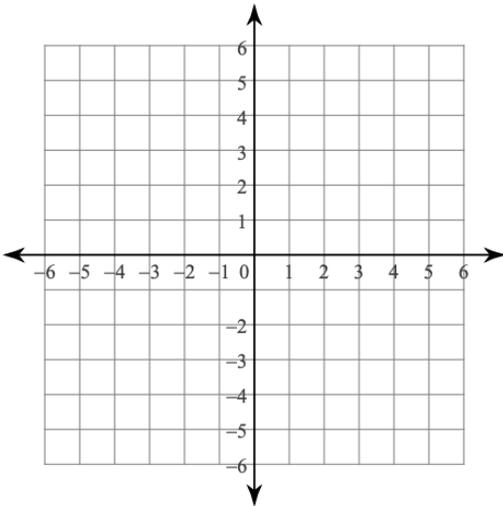
1) $y = -4x - 1$



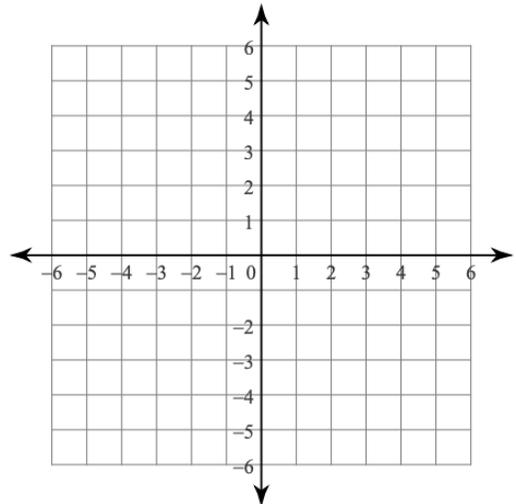
2) $y = \frac{1}{4}x - 2$



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

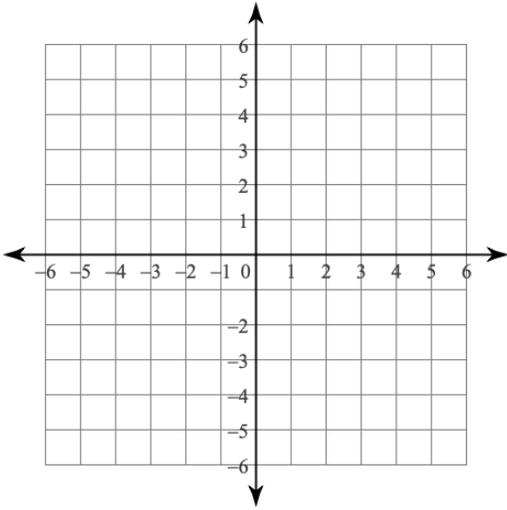


4) $y = -x + 3$

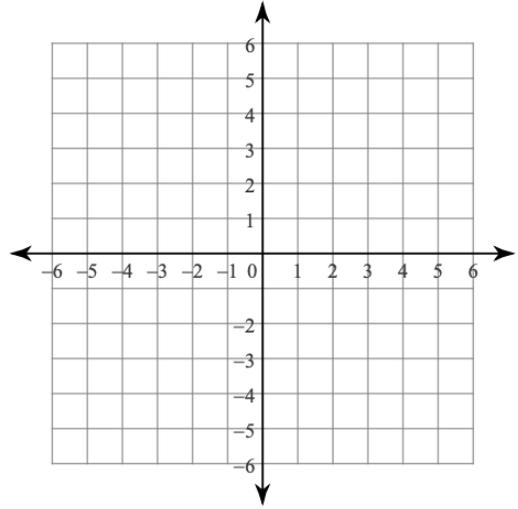


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5) $y = -\frac{1}{5}x + 2$



6) $y = 2x - 3$



Exponent Rules

Simplify. Your answer should contain only positive exponents.

1) $4n^2 \cdot n$

2) $(3x)^3$

3) $\frac{7n^4}{2n^4}$

4) $6a^3 \cdot 8a$

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5) $8k^{-3}$

6) $\frac{3x^3}{7x^3}$

7) $7r^3 \cdot 8r$

8) $\frac{7v}{7v}$

9) $(8v^{-1})^2$

10) $\frac{4x^4}{5x^4}$

11) $2a^3 \cdot 3a^2$

12) $5x^3 \cdot 7x^0$

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Simplifying Square Roots

Simplify.

1) $\sqrt{96}$

2) $\sqrt{216}$

3) $\sqrt{98}$

4) $\sqrt{18}$

5) $\sqrt{72}$

6) $\sqrt{144}$

7) $\sqrt{45}$

8) $\sqrt{175}$

9) $\sqrt{343}$

10) $\sqrt{12}$

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Simplifying Radical Expressions

Simplify.

1) $\sqrt{125n}$

2) $\sqrt{216v}$

3) $\sqrt{512k^2}$

4) $\sqrt{512m^3}$

5) $\sqrt{216k^4}$

6) $\sqrt{100v^3}$

7) $\sqrt{80p^3}$

8) $\sqrt{45p^2}$

9) $\sqrt{147m^3n^3}$

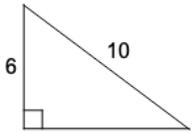
10) $\sqrt{200m^4n}$

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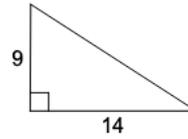
Pythagorean Theorem: Solve by using the $a^2 + b^2 = c^2$ formula.

Find each missing length to the nearest tenth.

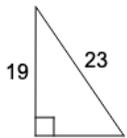
61)



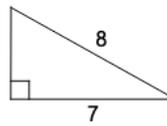
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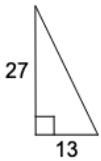
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64)



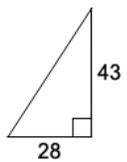
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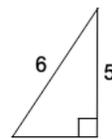
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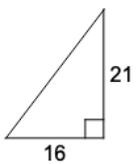
67)



68)



69)



70)

