

**Cherry Creek High School  
Summer Assignment for students entering:  
CP Algebra 2**

**The following worksheets will be very useful in helping you prepare for the first day of Math class. When you return to Math this school year, your teacher would like to “hit the ground running” with Algebra 2 topics and not have to review too much of Algebra 1. So, to be better prepared, please have these worksheets completed and ready to bring on the first day of class, August 18, 2021. Answers are provided for you to check, but AFTER you have attempted the problem, of course.**

**We would suggest that you do one worksheet per day and not all of them at once and NOT on the last day of summer break.**

**Have a great summer and we look forward to seeing you in the Fall!**

**The CCHS Math Department**

**Review WS #1 - NO CALCULATOR**

Please work on your mental math strength by completing these without a calculator, but SHOW ALL STEPS!!

1.  $-12 + (-16)$

2.  $-23 + 8$

3.  $15.8 - 27.4$

4.  $-5 - 7$

5.  $10 - (-5)$

6.  $-\frac{2}{7} + \frac{3}{7}$

7.  $-\frac{21}{4} - \left(-\frac{7}{4}\right)$

8.  $-\frac{11}{12} + \left(-\frac{5}{12}\right)$

9.  $3(-7)$

10.  $\frac{14 + 8}{2 - 1}$

11.  $37 + 3[16 \div (2 \cdot 4)]$

12.  $102 - 2(3^4 - 51)$

13.  $74 - 4[3 \cdot (9 - 4)] + 5^2$

14.  $3 \cdot 2 + 4 \cdot 2^2 - 6(3 - 1)$

15.  $4(8 - 6)^2 + 4 \cdot 3 - 2 \cdot 8 \div 4$

## Review WS#2 – NO CALCULATOR

How are your mental math skills going? Keep the mental math strength going on as many of these worksheets as possible. It really will help you in the long run to be able to do as much simple math in your head as possible, BUT SHOW ALL STEPS!!

Please simplify completely by combining like terms. (Sometimes you have to distribute first.)

1.  $4a + 5a$       2.  $t - 9t$       3.  $5x - 3x + 8x$       4.  $12a + 3b - 5a + 6b$

5.  $4m - (3m - 1)$       6.  $-2(x + 3) - 5(x - 4)$       7.  $5x - 7(2x - 3)$

8.  $9a - [7 - 5(7a - 3)]$       9.  $21 - 8 - 8 \cdot 3$       10.  $16 + (12 \div 2) + 13 \times 15$

11.  $42 - [169 \div (7 + 6)]$       12.  $12 \div 2 \cdot 3 \cdot 2 - 12 + 19$

Evaluate for the given values, please.

13.  $4x + 5y - 3z$  for  $x = -3$ ,  $y = 4$  and  $z = -2$

14.  $7p + q(3 + r)$  for  $p = -3$ ,  $q = -2$  and  $r = 1$

15.  $5a^2 + 5a + a + 1$  for  $a = -2$

### Review WS#3 – NO CALCULATOR

Well, mostly no calculator. Some of these exponents get a little large, but keep trying most calculations in your brain, BUT SHOW ALL STEPS!! Thanks.

Simplify, please leave all answers with positive exponents.

1.  $6^2 \cdot 6^6$

2.  $5^{-2} \cdot 5^{-6}$

3.  $a^4 \cdot a^{-3}$

4.  $x^5 \cdot x^{-8} \cdot x^3$

5.  $(9y^2)(2y^3)$

6.  $(3x^{-4}y^3)(-4x^{-8}y^{-2})$

7.  $\frac{9^{-4}}{9^{-6}}$

8.  $\frac{y^4}{y^{-5}}$

9.  $\frac{24a^5b^3}{-8a^4b}$

10.  $\frac{-14a^{14}b^{-5}}{-18a^{-2}b^{-10}}$

11.  $((y)^3)^2$

12.  $(3x^2y^2)^3$

13.  $(-2x^{-4}y^5z^2)^4$

14.  $\left(\frac{5^2}{4^{-3}}\right)^{-3}$

15.  $\left(\frac{-4x^4y^{-2}}{5x^{-1}y^4}\right)^{-4}$

Challenge! 16.  $\left[\frac{(-3x^2y^5)^3}{(2x^4y^{-8})^2}\right]^2$

## Review WS#4 – NO CALCULATOR

Yep, even when solving equations. Try to keep the mental math strength going, BUT SHOW ALL STEPS!! It really will help you in the long run to be able to do as much simple math in your head as possible.

Please solve the following for the indicated variable.

1.  $x + 9 = -6$

2.  $t - 9 = -23$

3.  $x - 26 = 13$

4.  $3x = 21$

5.  $-13x = 117$

6.  $\frac{2}{3}x = 14$

7.  $4x - 12 = 60$

8.  $5y + 3 = 28$

9.  $-4x - 7 = -35$

10.  $\frac{1}{5}x - 6 = 2$

11.  $-6y - 10y = -32$

12.  $\frac{4}{5}x - 8 = 12$

13.  $7y - 1 = 23 - 5y$

14.  $3m - 7 = -7 - 4m - m$

15.  $5r - 2 + 3r = 2r + 6 - 4r$

## Review WS#5 – YES CALCULATOR

Are you still doing no calculator? Go ahead and use a calculator for these, sometimes decimals are a little more difficult to work with, BUT STILL SHOW ALL STEPS!!

When will you ever use this stuff? Maybe in these situations, maybe not. Do your best!

1. A housecleaning service charges \$10 per visit plus \$7.50 per hour.
  - a. Write an equation for the cost,  $C$ , of cleaning a house that takes  $h$  hours to clean.
  - b. How much would this service charge if it took  $3\frac{1}{2}$  hours to clean a house?
  - c. If the bill for cleaning Natasha's house is \$28.75, how long did it take to clean?
  
2. Erika's Baby-Sitting Service charges \$8.50 per job plus \$6.75 per hour.
  - a. Write an equation for the charge,  $C$ , for baby-sitting  $h$  hours.
  - b. What is the cost of an 8-hour job?
  - c. If Brittney was charged \$55.75 for her nephew's care, how many hours was he in Erika's care?
  
3. Christy's Cheap Cell Phone service provider charges \$10 per month plus \$0.20 per minute for calls to anywhere in the United States!
  - a. Write an equation for the charges,  $C$ , per month for talking for  $m$  minutes.
  - b. Use the equation from part a to find the charges if Jake talks for 300 minutes in September.
  - c. If Ilana's cell phone bill is \$140, how many minutes did she use her phone that month?

4. Chaz decides to pay for the limo for his Homecoming group at \$55 plus \$8 per hour to take the group to dinner and the dance. Thanks Chaz, you're the best!!
- Write an equation that represents  $F$ , the total fee Chaz pays for the limo for  $h$  hours.
  - Find the fee Chaz pays for a  $5\frac{1}{2}$  hour event.
  - If Chaz pays \$83, how long was the event?
5. The time that a traffic light remains yellow is 1 second more than 0.05 times the speed limit.
- Write an equation that represents  $Y$ , the length of time the light is yellow at  $x$  mi/hr.
  - Find the length of time the light is yellow at 30 mi/hr.
  - If the light is yellow for 4 seconds, find the speed limit.
6. The final exam in the Skiing and Snowboard class is 30% of the total semester points.
- Write an equation to find the value of the final exam,  $F$ .
  - If the total points before the final is 700, find the point value of the final.
  - If the final was worth 360 points, find the point total before the exam.

**Review #1 - Answers**

1. -28      2. -15      3. -11.6      4. -12      5. 15      6.  $\frac{1}{7}$       7.  $\frac{-7}{2}$
8.  $\frac{-4}{3}$       9. -21      10. 22      11. 43      12. 42      13. 39      14. 10      15. 24

**Review #2 - Answers**

1. 9a      2. -8t      3. 10x      4. 7a + 9b      5. m + 1      6. -7x + 14      7. -9x + 21
8. 44a - 22      9. -11      10. 217      11. 29      12. 43      13. 14      14. -29      15. 9

**Review #3 - Answers**

1.  $6^8$       2.  $\frac{1}{5^8}$       3. a      4. 1      5.  $18y^5$       6.  $\frac{-12y}{x^{12}}$
7. 81      8.  $y^9$       9.  $-3ab^2$       10.  $\frac{7a^{16}b^5}{9}$       11.  $y^6$       12.  $27x^6y^6$
13.  $\frac{x^{16}}{16y^{20}z^8}$       14.  $\frac{1}{5^6 \cdot 4^9}$       15.  $\frac{625y^{24}}{256x^{20}}$       16.  $\frac{16x^4}{729y^{62}}$

**Review WS#4 - Answers**

1. x = -15      2. t = -14      3. x = 39      4. x = 7      5. x = -9      6. x = 21      7. x = 18      8. y = 5
9. x = 7      10. x = 40      11. y = 2      12. x = 25      13. y = 2      14. m = 0      15.  $x = \frac{4}{5}$

**Review WS#5 - Answers**

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|----------------------|-------------|-----------------------|
| 1a) C = 10 + 7.50h   | 1b) \$36.25 | 1c) 2.5 hrs           |
| 2a) C = 8.50 + 6.75h | 2b) \$62.50 | 2c) 7 hrs             |
| 3a) C = 10 + 0.20m   | 3b) \$70    | 3c) 650 min           |
| 4a) F = 55 + 8h      | 4b) \$99    | 4c) 3.5 hrs           |
| 5a) Y = 1 + 0.05x    | 5b) 2.5 sec | 5c) 60 mph            |
| 6a) F = 0.30pts      | 6b) 210 pts | 6c) 1200 total points |