



Equation Explosion

**7th Grade Common Core
Expressions, Equations, and Inequalities
Task Cards**

Teacher Directions

1. Print task cards onto card stock, cut apart, and laminate.
2. Students should play in groups of two to three. Groups will place task cards face down in a stack on the table.
3. One student will draw a card from the top. Everyone will solve the problem on their own paper. Students must write the problem number, show their work for solving the problem, and circle their answers. Problems will not be completed in order as the cards should be mixed up before beginning to play.
4. Someone at the table looks at the answer key provided and shares the correct answer with everyone else. If anyone has an incorrect answer, it is the responsibility of the group to explain the process they used in working the problem. If more assistance is needed, the teacher will explain.
5. Students will turn in their papers at the end of class as proof of their work.

Game Directions

1. Place task cards face down in a stack on the table.
2. One student draws a card from the top.
3. Everyone solves the problem on your own paper.
4. Write the problem number, show your work for solving the problem, and circle your answers. Problems will not be completed in order as the cards should be mixed up before beginning to play.
5. Someone at the table looks at the answer key and reveals the correct answer. If anyone does not have the correct answer, it is the responsibility of the rest of the group to explain to them how to work the problem correctly. If you still need help, call the teacher over.
6. Turn in your papers at the end of class as proof of your work.

1.

Solve
 $3n + 4n + 8 = 22$

2.

Solve
 $\frac{n}{3} - 4 = -8$

3.

Solve
 $5n - 7 + 4n = 20$

4.

Solve
 $20 + 3(n - 1) = -4$

5.

Simplify

$$3y - (-7y) + 9 - 5y - 4$$

6.

Simplify

$$-8 + (-2b) + 4b - 2 - 3b$$

7.

Simplify

$$x + 7(-7 + 4x) + 3$$

8.

Simplify

$$-5(5 - y) + 2x + 5 - 3y - x$$

9.

Write an equation and solve for “negative 10 times a number added to four times the number is 54”.

10.

Write an equation and solve for “one half of some number decreased by four is the same as negative twenty-two”.

11.

Write an equation and solve for “four less than the product of negative two and a number is 12”.

12.

Write an equation and solve for “twice a number increased by negative six is -18”.

13.

A health club charges a \$50 initial fee plus \$2 for each visit. Marsha has spent a total of \$144 at the health club this year. Write an equation and solve to find how many visits she has made.

14.

Carla earned twenty six dollars babysitting, which is two dollars less than the product of four and the amount that Ashley earned. Write an equation and solve to find out how much Ashley earned.

15.

Your maid came to your house and charged an initial fee of \$50 and then \$25 per hour. The total bill was \$150. Write an equation and solve to find the number of hours the maid was at your house.

16.

Sean earned twenty six dollars washing cars, which is six dollars less than the product of four and the amount that Casey earned. Write an equation and solve to find out how much Casey earned.

17.

Moe Tell starts washing dishes at the Greasy Spoon Café. Fran Tick joins Moe, and both wash until all the dishes are done. Moe washes 9 dishes per minute and Fran washes 16 dishes per minute. If 750 dishes have been washed, how long did it take? Write an equation and solve.

18.

Phil T. Rich has \$100 and spends \$3 per day. Earnest Worker has only \$20 but is adding to it at a rate of \$5 per day. Write an equation and solve for how long it would take them to have the same amount of money?

19.

Nick O' Time, the plumber, charges \$30 per hour. His brother Ivan, the plumber's helper, charges \$20 per hour. If together they earned \$450, how many hours did they work? Write an equation and solve.

20.

Suppose that you turn the hot water on and it flows at a rate of 8.7 liters per minute into the bath tub. You also turn the cold water on which flows at a rate of 13.3 liters per minute. How many minutes will it take to have 132 liters of water in the bathtub? Write an equation and solve.

21.

Solve and graph
 $3n - 2 > -17$

22.

Solve and graph
 $-5n - 15 \leq 25$

23.

Solve and graph
 $15 \geq -30 - 9n$

24.

Solve and graph
 $3n - 4 < -13$

25.

Write an inequality and solve for “eight less than a number, x , is at most five”.

26.

Write an inequality and solve for “nine increased by a number is at least negative two”.

27.

It costs the class \$15 to make cookies for the bake sale. How many cookies must they sell at 0.10 cents each to make a profit?

28.

Monty has saved \$400 to spend on a video game player and games. The player he wants costs \$275. The games each cost \$25. At most, how many games can he buy along with the player?

29.

Solve

$$\frac{1}{2}(4x + 20) = 12$$

30.

Solve

$$\frac{2}{3}(3 + 9x) = 20$$

31.

Solve

$$4n + 5 = 2n - 25$$

32.

Solve

$$8 + 2n = 2(2n + 1) - n$$

33.

Write an equation for
“the product of two and x
is three less than the
quotient of four and y ”.

34.

Write an expression for
“Latoya’s brother is five
years less than twice
Latoya’s age, x ”.

35.

Brian can mow the lawn in
three hours. Write an
expression for

36.

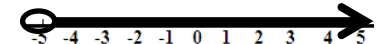
Kally was x inches tall a
year ago. She is taller now
and is y inches tall. Write
an expression to represent
how much Kally has grown
over the last year.

Answer Key

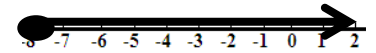
- 1) $n = 2$
- 2) $n = -12$
- 3) $n = 3$
- 4) $n = -7$
- 5) $5y + 5$
- 6) $-b - 10$
- 7) $29x - 46$
- 8) $x + 2y - 20$
- 9) $n = -9$
- 10) $n = -36$
- 11) $n = -8$
- 12) $n = -6$
- 13) $50 + 2v = 144$; $v = 47$
- 14) $26 = 4a - 2$; $a = 7$
- 15) $50 + 25h = 150$; $h = 4$
- 16) $26 = 4c - 6$; $c = 8$
- 17) $9m + 16m = 750$; $m = 30$
- 18) $100 - 3d = 20 + 5d$; $d = 10$

- 19) $30h + 20h = 450$; $h = 9$
- 20) $8.7L + 13.3L = 132$; $L = 6$

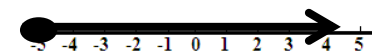
21) $n > -5$



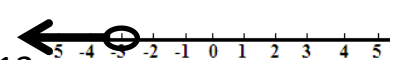
22) $n \geq -8$



23) $-5 \leq n$



24) $n < -3$



25) $x - 8 \leq 5$; $x \leq 13$

26) $9 + n \geq -2$; $n \geq -11$

27) 150 cookies

28) 5 games

29) $x = 1$

30) $x = 3$

31) $n = -15$

32) $6 = n$

33) $2x = \frac{4}{y} - 3$

34) $2x - 5$

35) $\frac{x}{3}$

36) $y - x$