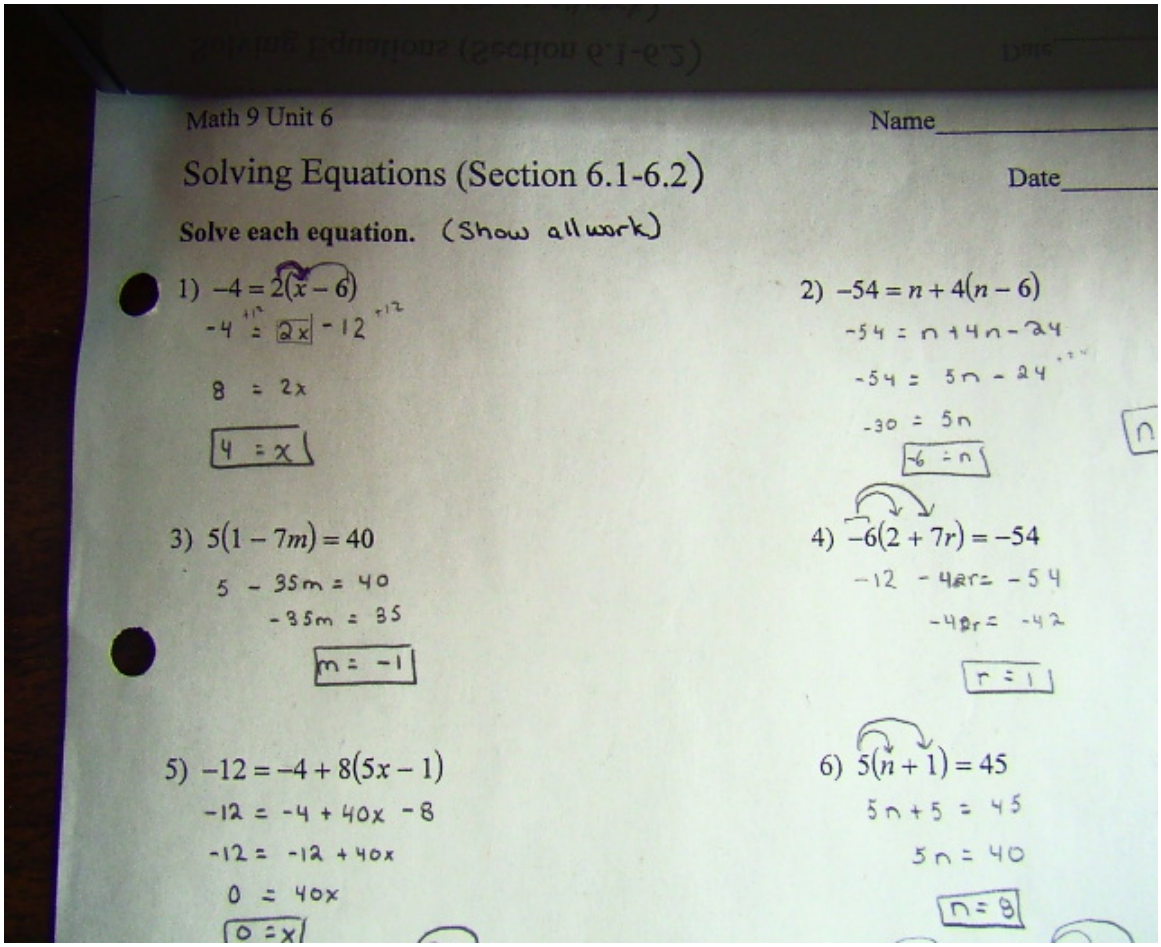


Math 9 Unit 6 Name_____

Solving Equations (Section 6.1-6.2) Date_____

Solve each equation. (Show all work)

1) $-4 = 2(x - 6)$

$-4 = 2x - 12$ (+12)

$8 = 2x$

$4 = x$

2) $-54 = n + 4(n - 6)$

$-54 = n + 4n - 24$

$-54 = 5n - 24$ (+24)

$-30 = 5n$

$-6 = n$

3) $5(1 - 7m) = 40$

$5 - 35m = 40$

$-35m = 35$

$m = -1$

4) $-6(2 + 7r) = -54$

$-12 - 42r = -54$

$-42r = -42$

$r = 1$

5) $-12 = -4 + 8(5x - 1)$

$-12 = -4 + 40x - 8$

$-12 = -12 + 40x$

$0 = 40x$

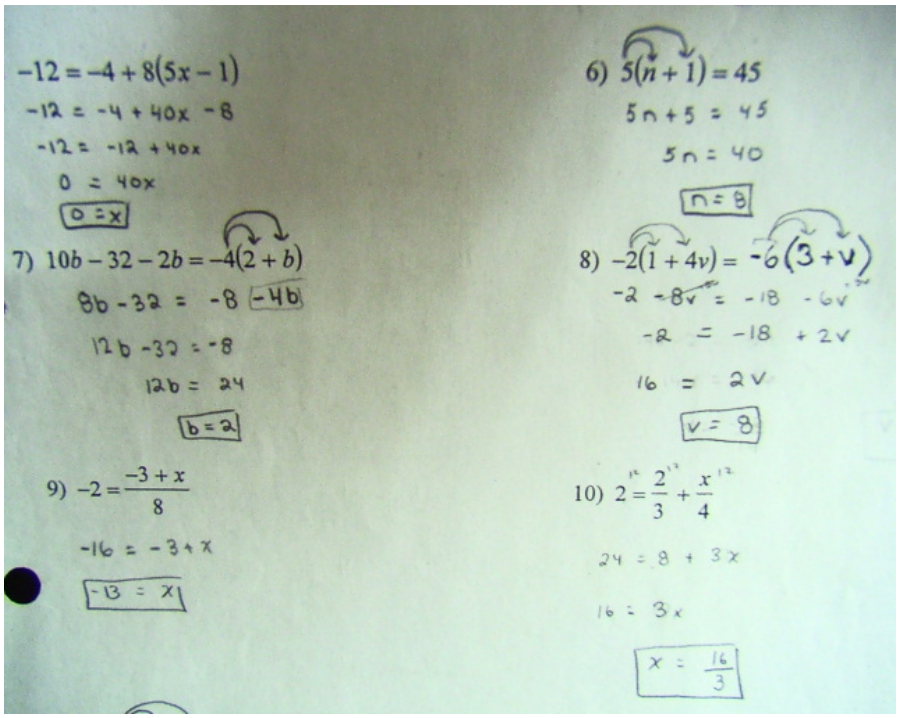
$0 = x$

6) $5(n + 1) = 45$

$5n + 5 = 45$

$5n = 40$

$n = 8$



$-12 = -4 + 8(5x - 1)$

$-12 = -4 + 40x - 8$

$-12 = -12 + 40x$

$0 = 40x$

$0 = x$

7) $10b - 32 - 2b = -4(2 + b)$

$8b - 32 = -8 - 4b$

$12b - 32 = -8$

$12b = 24$

$b = 2$

9) $-2 = \frac{-3 + x}{8}$

$-16 = -3 + x$

$-13 = x$

6) $5(n + 1) = 45$

$5n + 5 = 45$

$5n = 40$

$n = 8$

8) $-2(1 + 4v) = -6(3 + v)$

$-2 - 8v = -18 - 6v$

$-2 = -18 + 2v$

$16 = 2v$

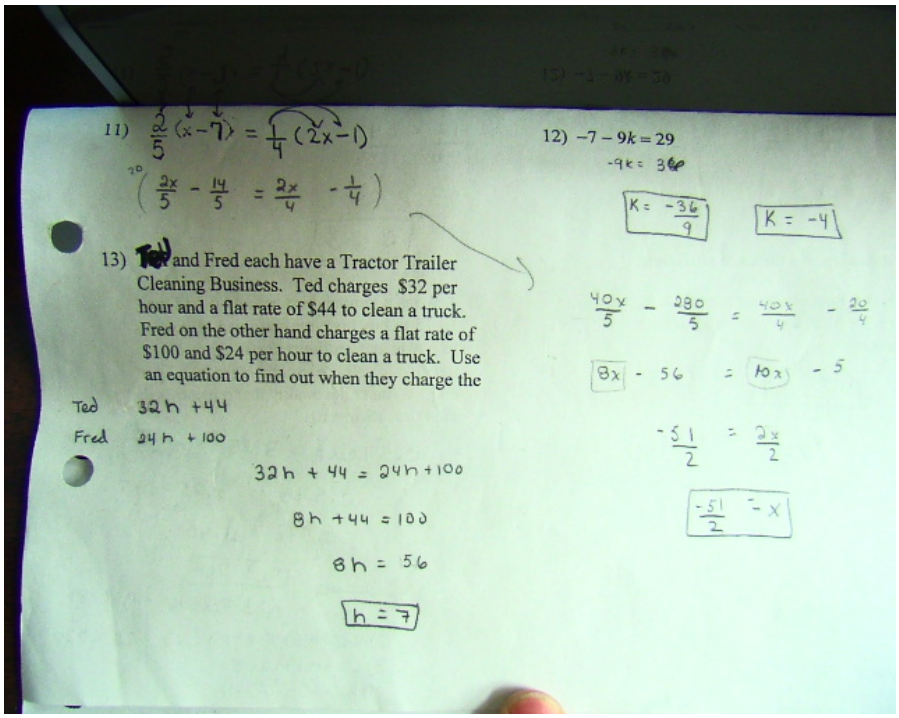
$v = 8$

10) $2 = \frac{2}{3} + \frac{x}{4}$

$24 = 8 + 3x$

$16 = 3x$

$x = \frac{16}{3}$


11) $\frac{2}{5}(x-7) = \frac{1}{4}(2x-1)$
$\left(\frac{2x}{5} - \frac{14}{5} = \frac{2x}{4} - \frac{1}{4}\right)$
12) $-7-9k=29$
$-9k=36$
$K=\frac{-36}{9}$
$K=-4$
13) Ted and Fred each have a Tractor Trailer Cleaning Business. Ted charges $32 per hour and a flat rate of $44 to clean a truck. Fred on the other hand charges a flat rate of $100 and $24 per hour to clean a truck. Use an equation to find out when they charge the
Ted $32h+44$
Fred $24h+100$
$32h+44=24h+100$
$8h+44=100$
$8h=56$
$h=7$
$\frac{40x}{5} - \frac{280}{5} = \frac{40x}{4} - \frac{20}{4}$
$8x-56=10x-5$
$-\frac{51}{2} = \frac{2x}{2}$
$-\frac{51}{2} = x$

Math 9

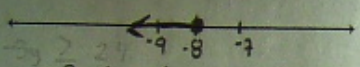
Name _____

Inequalities ICA

Per/Sec. _____ Date _____

Solve and graph. Show all work (Section 6.3 – 6.5)

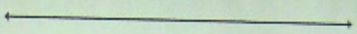
1. $-3y \geq 24$



$\frac{-3y}{-3} \geq \frac{24}{-3}$

$y \leq -8$

2. $-2c \leq 26$



$\frac{-2c}{-2} \leq \frac{26}{-2}$

$c \geq -13$

3. $4 - c < 16$ (−4)

$-c < 12$

$\frac{}{-1} \quad \frac{}{-1}$

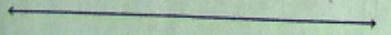
$c > -12$

4. $15 < -k + 8$ (−8)

$7 < -k$

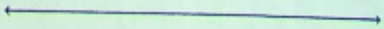
$-7 > k$ $\quad k < 7$

5. $3k + 8 \geq 17$ (−8)

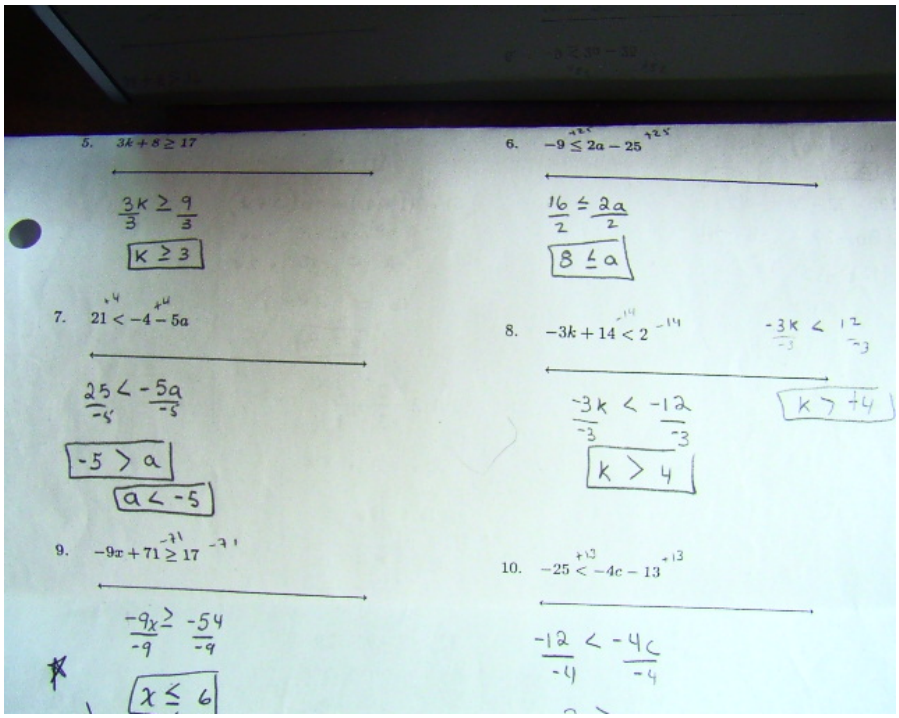


$3k \geq 9$

6. $-9 \leq 2a - 25$ (+25)



$16 \leq 2a$



5. $3k + 8 \geq 17$

$\frac{3k}{3} \geq \frac{9}{3}$

$k \geq 3$

6. $-9 \leq 2a - 25$ (+25 +25)

$\frac{16}{2} \leq \frac{2a}{2}$

$8 \leq a$

7. $21 < -4 - 5a$ (+4 +4)

$\frac{25}{-5} < \frac{-5a}{-5}$

$-5 > a$

$a < -5$

8. $-3k + 14 < 2$ (−14 −14)

$-3k < 12$ (−3 −3)

$\frac{-3k}{-3} < \frac{-12}{-3}$

$k > 4$

$k > +4$

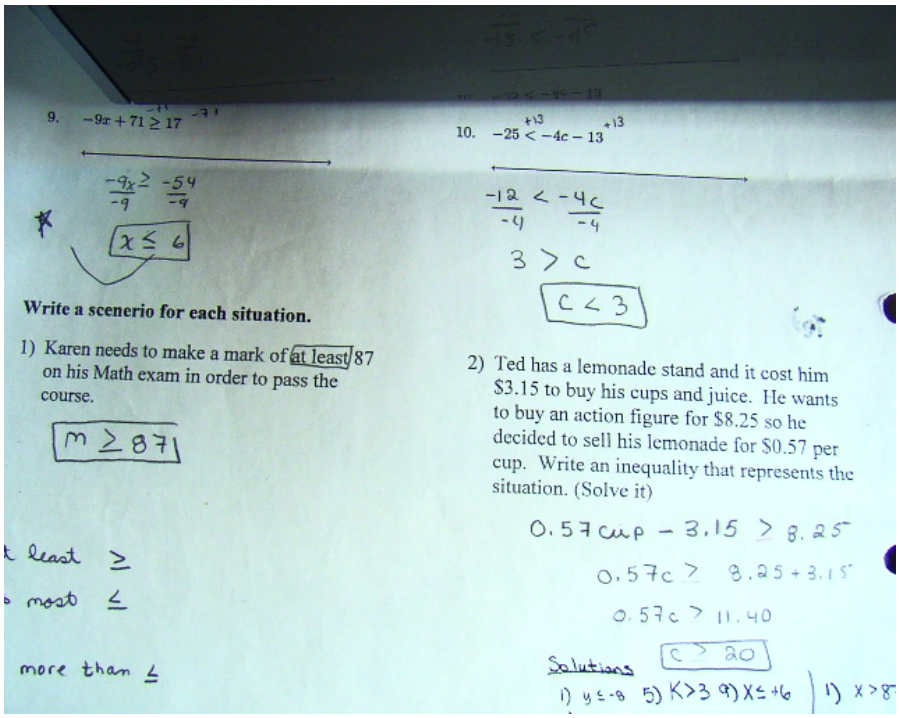
9. $-9x + 71 \geq 17$ (−71 −71)

$\frac{-9x}{-9} \geq \frac{-54}{-9}$

$x \leq 6$

10. $-25 < -4c - 13$ (+13 +13)

$\frac{-12}{-4} < \frac{-4c}{-4}$



9. $-9x + 71 \geq 17$

$\frac{-9x}{-9} \geq \frac{-54}{-9}$

$x \leq 6$

10. $-25 \overset{+13}{<} -4c - 13 \overset{+13}{}$

$\frac{-12}{-4} < \frac{-4c}{-4}$

$3 > c$

$c < 3$

Write a scenerio for each situation.

1) Karen needs to make a mark of at least 87 on his Math exam in order to pass the course.

$m \geq 87$

t least $\geq$

most $\leq$

more than $\leq$

2) Ted has a lemonade stand and it cost him $3.15 to buy his cups and juice. He wants to buy an action figure for $8.25 so he decided to sell his lemonade for $0.57 per cup. Write an inequality that represents the situation. (Solve it)

$0.57cup - 3.15 \geq 8.25$

$0.57c \geq 8.25 + 3.15$

$0.57c > 11.40$

$c > 20$

Solutions

1) $y \leq -8$ 5) $K > 3$ 9) $X \leq +6$ 1) $x > 8$