Algebra 1 Mid-Chapter 3 Review

Name _____ **Date** _____

Instructions:

- **For all equations - Solve. Clearly show ALL steps. Check.**

LESSON 3.1 Practice C

4) $y + 10.5 = -9.4$

$-10.5 \quad -10.5$

$y = -19.9$

C: $-19.9 + 10.5 = -9.5$

$-9.5 = -9.5$ ✓

6) $m + 6.25 = 3.5$

$-6.25 \quad -6.25$

$m = -2.75$

C: $-2.75 + 6.25 = 3.5$

$3.5 = 3.5$ ✓

13) $-4\left(\frac{y}{4}\right) = (-23) \cdot -4$

$y = 92$

C: $\frac{92}{-4} = -23$

$-23 = -23$ ✓

14) $\left(\frac{3}{2}\right)\frac{2}{3}N = -\frac{8}{3}\left(\frac{3}{2}\right)$

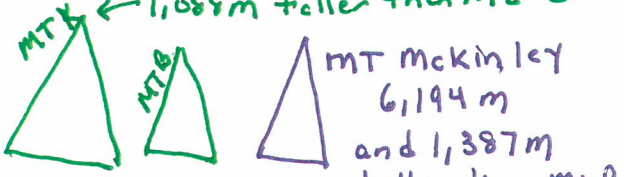
$N = -4$

C: $\frac{2}{3} \cdot \frac{-4}{1} = \frac{-8}{3}$

$-8/3 = -8/3$

21) Tallest Mountains Mount Kilimanjaro, the tallest mountain in Africa, is 1088 meters taller than Mont Blanc, the tallest mountain in Europe. Mount McKinley is the highest point in North America at 6194 meters. Mount McKinley is 1387 meters taller than Mont Blanc. How tall are Mount Kilimanjaro and Mont Blanc?

KI:



Explain how you got your answers.

Mt Blanc = $6194 - 1387 =$ 4,807m

Mt Kilimanjaro = $4807 + 1088$ 5,895m

22) Car Wash You are working at a car wash to raise money for a charity. By the end of the day, you raised $342. You charged $6 for each car wash. How many cars were washed during the day?

KI: $6/car

Need $342

Define a variable: x = # of cars

Write an equation: $\frac{6x}{6} = \frac{342}{6}$

$x = 57$

Answer in a sentence:

They washed 57 cars.

Algebra 1 Mid-Chapter 3 Review

LESSON 3.2 Practice B

1) $3n + 14 = 35$

$-14 \quad -14$

$\frac{3n}{3} = \frac{21}{3}$

$n = 7$

C: $3(7)+14=35$

$21+14=35$

$35=35$ ✓

9) $\frac{z}{3} - 8 = -4$

$+8 \quad +8$

$3\left(\frac{z}{3}\right) = (4)\cdot 3$

$z = 12$

C: $\frac{12}{3} - 8 = -4$

$4-8=-4$

$-4=-4$ ✓

LESSON 3.3 Practice A

Check whether the given number is a solution of the equation.

1) $6x + 1 - 5x = 7$; **2**

$6(2)+1-5(2)=7$

$12+1-10=7$

$3 \neq 7$

2 IS NOT A SOLUTION

3) $\frac{1}{2}(8x - 6) = 1$; **1**

$\frac{1}{2}(8(1)-6)=1$

$\frac{1}{2}(2)=1$

$1=1$ ✓

1 is a solution

More equations.

10) $3a + 2a + 7 = 12$

$5A+7=12$

$-7 \quad -7$

$\frac{5A}{5} = \frac{5}{5}$

$A = 1$

C: $3(1)+2(1)+7=12$

$3+2+7=12$

$12=12$ ✓

17) $6w + 5(w - 2) = 23$

$6w+5w-10=23$

$11w-10=23$

$+10 \quad +10$

$\frac{11w}{11} = \frac{33}{11}$

$w = 3$

C: $6(3)+5(3-2)=23$

$18+5(1)=23$

$23=23$ ✓

18) $7 - 3(x + 2) = 4$

$7-3x-6=4$

$-3x+1=4$

$-1 \quad -1$

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

$x = -1$

C: $7-3(-1+2)=4$

$7-3(1)=4$

$7-3=4$

$4=4$ ✓

20) $\frac{1}{3}(m + 6) = 4$

$\frac{1}{3}m+2=4$

$-2 \quad -2$

$3\cdot\frac{1}{3}m = 2\cdot 3$

$m = 6$

C: $\frac{1}{3}(6+6)=4$

$\frac{1}{3}(12)=4$

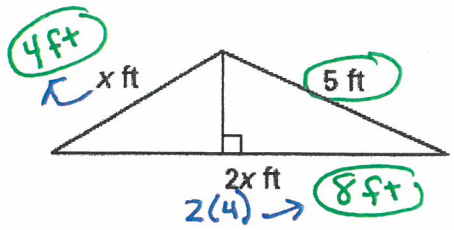
$4=4$ ✓

Algebra 1 Mid-Chapter 3 Review

LESSON 3.3 Practice A (continued)

Find the length of each side of the triangle or rectangle. Write an equation!!!! Show your work!

22) Perimeter = 17 feet



C: $4+5+8=17$
$17=17$ ✓

4ft

2(4) → 8ft

EQ: $x+2x+5=17$

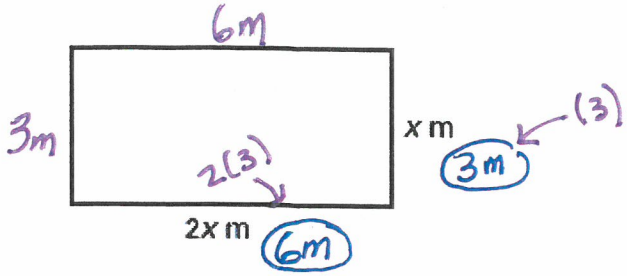
$3x+5=17$

$-5 \quad -5$

$\frac{3x}{3}=\frac{12}{3}$

$x=4$

23) Perimeter = 18 meters



(3)

3m

6m

EQ: $2(2x)+2(x)=18$

$4x+2x=18$

$\frac{6x}{6}=\frac{18}{6}$

$x=3$

LESSON 3.4 Practice B

8) $4(w+3)=w-15$

$4w+12=w-15$

$-w \quad -w$

$3w+12=-15$

$-12 \quad -12$

$\frac{3w}{3}=\frac{-27}{3}$

$w=-9$

C: $4(-9+3)=-9-15$

$4(-6)=-24$

$-24=-24$ ✓

11) $7+x=\frac{1}{2}(4x-2)$

$x+7=2x-1$

$-x \quad -x$

$7=x-1$

$+1 \quad +1$

$x=8$

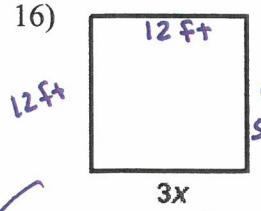
C: $7+8=\frac{1}{2}(4\cdot8-2)$

$15=\frac{1}{2}(30)$

$15=15$ ✓

Find the perimeter of the square. Write an equation!!!! Show your work! Units are in feet.

16)



$5(4)-8=12$ ft

$3 \cdot 4 = 12$ ft

$P=12 \cdot 4=48$

$5x-8=3x$

$-3x \quad -3x$

$2x-8=0$

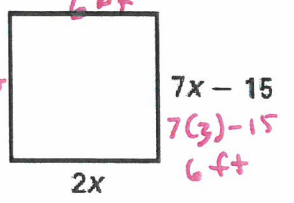
$+8 \quad +8$

$\frac{2x}{2}=\frac{8}{2}$

$x=4$

Perimeter 48 ft

18)



$7(3)-15=6$ ft

$2 \cdot 3 = 6$ ft

$A=6 \cdot 4=24$

$7x-15=2x$

$+15 \quad +15$

$7x=2x+15$

$-2x \quad -2x$

$\frac{5x}{5}=\frac{15}{5}$

$x=3$

Perimeter is 24 ft

Ms. Groves

LESSON 3.4 Practice B (continued)

19) Saving and Spending Currently, you have \$80 and your sister has \$145. You decide to save \$6 of your allowance each week, while your sister decides to spend ~~her whole allowance plus~~ \$7 each week. How long will it be before you have as much money as your sister?

KI:

You: \$80; weekly save \$6

Sister: \$145; weekly spend \$7 until she has NO MONEY

Define a variable:

X = number of weeks

Write an equation:

you = sister

EQ: $80 + 6x = 145 - 7x$

$+7x \quad +7x$

$80 + 13x = 145$

$-80 \quad -80$

$\frac{13x}{13} = \frac{65}{13}$

$x = 5$

amount of money

C: $80+6(5) = 145-7(5)$

\$110 = \$110 ✓

Answer in a sentence:

After 5 weeks you and your sister will have the same amount of money (\$110).

LESSON 3.4 Practice C

17) $\frac{1}{3}(6x + 3) = 2x - 5$

$2x + 1 = 2x - 5$

$-2x \quad -2x$

$1 \neq -5$

X = NO SOLUTION

32) $2(x - 4) + 2x = \frac{1}{2}(8x - 16)$

$2x - 8 + 2x = 4x - 8$

$4x - 8 = 4x - 8$

$-4x \quad -4x$

$-8 = -8$ ✓

X = ALL REAL NUMBERS

33) $2(8x - 4) + 20 = 3(5x + 4)$

$16x - 8 + 20 = 15x + 12$

$16x + 12 = 15x + 12$

$-15x \quad -15x$

$x + 12 = 12$

$-12 \quad -12$

$x = 0$

C: $2[8(0) - 4] + 20 = 3[8(0) + 4]$

$2(-4) + 20 = 3(4)$

$12 = 12$ ✓