

Review questions:

1. A set consisting of all elements belonging to any of the sets combined with the symbol \cup is called the union of the sets.

2. A set consisting of only the elements that are common to all sets combined with the symbol \cap is called the intersection of the sets.

3. State the associative property for addition of real numbers.

$$(a+b)+c = a+(b+c)$$

4. State the commutative property of multiplication.

$$ab = ba$$

5. State the multiplicative inverse of a real number a .

$$1/a$$

6. State the distributive property of real numbers.

$$a(b+c) = ab+ac$$

2.217. $x, 10-x$

$$3(10-x) = 8(x) - 3$$

$$30 - 3x = 8x - 3$$

$$33 = 11x$$

$$\boxed{3} = x$$

$$10-x = \boxed{7}$$

9. coin	# coins	value/ coin	total value
nickels	$25 - x$ $- 4x$.05	$.05(25 - 5x)$
dimes	$4x$.1	$.1(4x)$
quarters	x	.25	$.25x$

$$2.05 = .05(25 - 5x) + .1(4x) + .25x$$

$$2.05 = 1.25 - 0.25x + .4x + .25x$$

$$= .4x$$

$$3. \quad .1x + .05(56-x) = 4$$

$$.1x + 2.8 - .05x = 4$$

$$.05x = 1.2$$

$$5x = 120$$

$$x = 24$$

$$0.10$$

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11.

stamp	# stamps	value/ stamp	total value
3¢	x	.03	$.03x$
8¢	$2x-3$.08	$.08(2x-3)$
13¢	$2(2x-3)$.13	$.13(2(2x-3))$

$$2.53 = .03x + .$$

2.3Value Mixture & Motion

4. coffee	weight	cost per lb	total cost
5.50	x	5.5	$5.5x$
3	$40-x$	3	$3(40-x)$
blend	40	4	$4(40)$

$$5.5x + 3(40-x) = 4(40)$$

$$5.5x + 120 - 3x = 160$$

$$2.5x = 40$$

$$25x = 400$$

$x = 16$ lb of \$5.50 coffee

24 lb of \$3 coffee

10. metal	weight	cost/ oz.	total cost
pure silver	x	5.2	$5.2x$
\$2.80 alloy	50	2.8	$2.8(50)$
\$4.40 alloy	$50+x$	4.4	$4.4(50+x)$

$$5.2x + 2.8(50) = 4.4(50+x)$$

. . .

Uniform Motion:
rate \times time = distance

18 skiers	rate	time	distance
slower	x	$\frac{1}{2}$	$\frac{1}{2}x$
faster	$x+14$	$\frac{1}{2}$	$\frac{1}{2}(x+14)$

$$\frac{1}{2}x + \frac{1}{2}(x+14) = 48$$

26.

plane	rate	time	distance
1	x	4	$4x$
2	$x+150$	3	$3(x+150)$

$$3(x+150) = 4x + 250$$

2.3
odd #'s