

## 1. Simplify:

(a)  $13 + 6 \times p$

(b)  $5(8a + 3)$

(c)  $-3(4q - 7)$

## 2. Simplify:

(a)  $5x + 18x$

(b)  $101a + 121a - 205a$

(c)  $63pt - 4p + 11p - 2t$

(d)  $17g^2h + 10gh^2 - 72g^2h + 5h^2$

(e)  $6xy - 4yx + 12$

(f)  $26a + 38b + 13c - 11a - 41b + 18c - 25b + 2a - 3c$

## 3. Expand and simplify:

(a)  $2 + 4(a + 3)$

(b)  $5m - (m + 8)$

(c)  $3(x + 4) + 2(x - 1)$

(d)  $2(a - 7) - 3(a - 9)$

(e)  $-(x + 1) - 4(x - 1)$

## 4. Solve the following equations:

(a)  $4p + 6 = 37$

(b)  $2x + 11 = 6x + 3$

(c)  $3a + 4 = 9 - 2a$

## 5. Solve:

(a)  $4x - 5 = 7$

(b)  $\frac{2x}{3} - 1 = 5$

(c)  $\frac{5 - w}{2} = 6$

(d)  $p - 0.88 = 1$

(e)  $2x + 456 = 9078$

## 6. Solve:

(a)  $5(3w - 5) = 35$

(b)  $-7(3 + s) = -28$

(c)  $3x + 2(x + 1) = 12$

(d)  $x - 3(4 - x) = -8$

(e)  $5(2w + 1) - 2(1 - w) = -2$

## 7. A rectangle is 6 cm longer than it is wide. Find its dimensions if its perimeter is 64 cm.

*Q* A bank teller notices that he has 50 coins all of which are 5c or 10c pieces. He finds that the value of coins is \$4.20. How many of each must he have?

$$1) a) 13 + 6xp \checkmark$$

$$= 13 + 6p \checkmark$$

$$b) 40a + 15 \checkmark$$

$$c) -12x + 21 \checkmark$$

$$2) a) 23x \checkmark$$

$$b) 222a - 205a$$

$$= 17a \checkmark$$

$$c) ~~63pt + 5pt~~ +$$

$$~~63pt + 5pt~~$$

$$63pt + 5pt + 2t \quad X$$

$$d) -55gh + 10gh^2 + 5h^2 \checkmark$$

$$e) 2xy + 12 \checkmark$$

$$f) 26a - 11a + 52a = 67a$$

-3b

$$38b - 41b - 25b = -28b$$

$$13c + 18c - 3c = 28c$$

$$= 67a - 28b + 28c \checkmark$$

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$$3) a) 2 + 4a + 12$$

$$= 14 + 4a \checkmark$$

$$b) 5m - m + 8$$

$$= 4m + 8 \checkmark$$

$$c) 3x + ~~12~~ + 2x ~~12~~$$

$$3x + 10 + 2x$$

$$= 5x + 10 \checkmark$$

$$d) 2a - 14 - 3a + 27$$

$$= -a + 13 \checkmark$$

$$e) -x + -1 - 4x + 4$$

$$= -5x + 3 \checkmark$$

$$4) a) 4p + 6 = 37$$

$$= 4p = 31$$

$$= p = \frac{31}{4} \text{ or } p = 7\frac{3}{4} \checkmark \checkmark$$

$$b) 2x + 11 = 6x + 3$$

$$2x + 8 = 6x$$

$$8 = 4x$$

$$4x = 8$$

$$x = 2 \checkmark \checkmark$$

$$c) 3a + 4 = 9 - 2a$$

$$3a = 5 - 2a$$

$$5a = 5$$

$$a = 1 \checkmark \checkmark$$

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5 a)  $4x - 5 = 7$

$4x = 12$

$x = 3$  ✓✓

b)  $\frac{2x}{3} - 1 = 5$  ✓✓

~~3~~  $\times \frac{2x}{3} - 3 \times 1 = 3 \times 5$

~~3~~  $2x - 3 = 15$

~~3~~  $2x = 18$

$x = 9$  ✓✓

c)  $\frac{5-w}{2} = 6$

~~2~~  $\times \frac{5-w}{2} = 6 \times 2$

$5-w = 12$

$-w = 7$

$7 = -w$  ✓X

d)  $p - 0.88 = 1$

$p = 1.88$  ✓✓

e)  $2x + 456 = 9078$

$2x = 9534$  X

$x = 4767$  ✓✓

about no one.

$$\begin{array}{r} 4767 \\ 2 \overline{) 9534} \end{array}$$

$$\begin{array}{r} 9078 + \\ 456 \\ \hline 9534 \end{array}$$

6a)  $15w - 25 = 35$

$15w = 60$

$w = 4$  ✓✓

b)  $-21 - 7s = -28$

~~-21~~  $-7s = -7$

$-s = -1$

$s = 1$  ✓✓

c)  $3x + 2x + 2 = 12$

$5x = 10$

$x = 2$  ✓✓

d) ~~the~~  $x - 12 + 3x = -8$

$x + 3x = 4$

$4x = 4$

$x = 1$  ✓✓

e)  $10w + 5 - 2 + 2w = -2$  ✓

$10w + 5 + 2w = 0$

$10w + 2w = -5$

$12w = -5$

$6w = -2.5$

$3w = -1.25$

$\therefore w = ?$  X

7)

~~12 \* 6 = 72~~  
~~8 \* 5 = 40~~  
~~9 \* 5 = 45~~  
~~11 \* 5 = 55~~  
~~13 \* 5 = 65~~  
~~15 \* 5 = 75~~

~~15 \* 5 = 75~~  
~~13 \* 5 = 65~~  
~~11 \* 5 = 55~~  
~~9 \* 5 = 45~~  
~~8 \* 5 = 40~~

Therefore, The rectangle is 19 cm <sup>long</sup> ~~wide~~  
 and 13 cm ~~wide~~.

~~19 \* 10 = 190~~  
~~18 \* 12 = 216~~  
 19 \* 13

19 cm long ✓  
 13 cm wide ✓

19 x  
 13  
 ---  
 42  
 190  
 ---  
 232

Area = 232 cm<sup>2</sup>

8)

~~20 \* 5 = 100~~  
~~30 \* 10 = 300~~  
~~12 \* 5 = 60~~  
~~38 \* 10 = 380~~

~~4 \* 5 = 20~~

~~56 \* 10 = 560~~

The bank teller has  
~~20~~ 16 five cent coins  
 and 34 Ten cent coins.

~~14 \* 5 = 70~~

~~36 \* 10 = 360~~

~~24 \* 5 = 120~~

~~28 \* 10 = 280~~

16 \* 5 = 80  
 34 \* 10 = 340  
~~24 \* 5 = 120~~  
~~28 \* 10 = 280~~

80  
 340  
 ---  
 420

~~12 \* 5 = 60~~

~~38 \* 10 = 380~~

~~24 \* 5 = 120~~

~~26 \* 10 = 260~~