

1 Simplify

a)  $3x - 12y - 6x + 8y$

b)  $7x^2 + 3x - 5 - 2x^2 - 9x + 18$

c)  $9(x - 4) - 7(x + 6) - 6(x - 8)$

2 Solve

a)  $2x = 28$

b)  $75 = 5a$

c)  $x + 7 = 8$

d)  $m - 15 = 4$

e)  $x + 9 = 2$

f)  $3x + 5 = 29$

g)  $49 = 9a - 5$

h)  $23 = 5x + 8$

i)  $5a + 12 = 2$

j)  $47 = 11 + 12d$

be careful of the negatives

k)  $3 - x = 5$

l)  $7 - x = 2$

m)  $23 = 6 - x$

n)  $8 - 2x = 18$

o)  $37 = 2 - 5x$

look out for the x both sides

p)  $2x - 5 = x + 9$

q)  $3x + 5 = 2x - 2$

r)  $5x + 6 = 3x + 8$

s)  $2x + 7 = 5x - 2$

t)  $7x - 1 = 3x - 13$

3 Expand the brackets and solve

a)  $2(x + 3) = 18$

b)  $5(2x - 3) = 25$

c)  $45 = 3(2m + 7)$

d)  $6(3 - b) = 18$

e)  $3(3 + 4a) = 69$

f)  $5(x + 2) = 3(x + 8)$

g)  $9(b - 1) + 3(b + 4) = 27$

h)  $2(a + 5) - 7(a - 3) = 3(a - 3)$

4 Simplify

a)  $c \times c$

b)  $m \times m^2$

c)  $a^2 \times a^3$

d)  $w^{-6} \times w^{15}$

e)  $a^{10} \times a^{-7}$

f)  $a^3 \div a^2$

g)  $m^5 \div m$

h)  $r^7 \div r^4$

i)  $a^{-12} \div a^3$

j)  $d^7 \div d^{-11}$

k)  $(a^4)^2$

l)  $(g^6)^{-2}$

m)  $a^7 \times a^3 \div a^2$

n)  $a^{15} \times a^{-6} \div a^{-3}$

p)  $5x^2 \div x$

o)  $4x^3 \div 2x$

q)  $12x^5 \div 4x^2$

r)  $8a^2 \times 3a^4$

s)  $15x^7 \div 3x^4$

t)  $21x^8 \div 7x^{-3}$

u)  $(2x)^2$

v)  $(5x)^2$

w)  $(4a^3)^2$

x)  $(x^8)^{1/2}$

y)  $(2a^{1/3})^3$

5 Here are some cards match the pairs of cards

$n + n$

$n \times n^2$

$9n \div 3$

$4 \times n$

$n^3$

$5n + 7n$

$3n - n$

$6n \times 2$

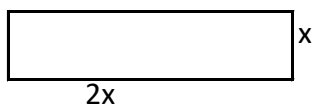
$n \times 3$

$5n - n$

6 The sum of 2 consecutive numbers is 25. Find the first number ( call it x)

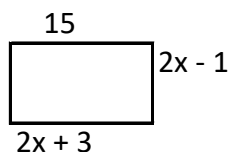
7 The sum of 3 consecutive numbers is 27. Find the first number ( call it x)

8 If the length of a rectangle is twice it's width and it's perimeter is 24 cm what is it's width?

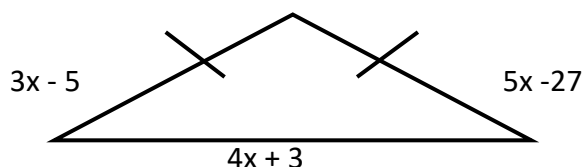


hint write the perimeter first in terms of x

9 Use the information on the rectangle to find the value of x now work out the area of the rectangle



10



Use the information on the triangle to find the value of x, now work out the perimeter of the rectangle

11 Brad thinks of a number, times it by 10 and then adds 2. The answer to this is the same as when Brad starts with the same number, doubles it and then adds 26 Write this information as an equation, what number did Brad start with?

12 Some mixed solving

a)  $16 - 2x = 6$

b)  $2(4 - 3x) = -10$

c)  $8x = 2$

d)  $15m = 3$

e)  $a \div 4 = 2$

f)  $0.2m + 1.4 = 2$

g)  $x/3 = 6$

h)  $6(2x - 3) = 48$

i)  $27 - (2x + 5) - 3(x - 4) = 9$

k)  $\frac{4a}{5} = -8$

l)  $\frac{x+1}{2} = 3$

m)  $\frac{m-1}{5} = 2$

n)  $\frac{4a+6}{2} = 13$

o)  $x^2 = 9$

p)  $x^2 = 64$

q)  $2x^2 = 50$

r)  $5x^3 = 40$

s)  $x^2 - 12 = 24$

**13** Solve

$$-2(3f - 2) = 11(2f + 8)$$