1 Complete these product tables.

b	×	-4	-2	0	2	4
	-4	16				
	-2					
	0					0
	2					
	4				8	

2 Write down the missing number.

a
$$2 \times (-3) = -6$$
, so $-6 \div (-3) =$

b
$$2 \times (-3) = -6$$
, so $-6 \div 2 = \boxed{}$

c
$$-16 \div 4 = -4$$
, so $\times 4 = -16$

d
$$16 \div (-4) = -4$$
, so $\times (-4) = 16$

3 Complete each sentence by inserting the missing word *positive* or *negative*.

- a The product (×) of two positive numbers is _____.
- **b** The product (×) of two negative numbers is _____
- **c** The product (×) of two numbers with opposite signs is _____
- **d** The quotient (÷) of two positive numbers is ______.
- e The quotient (÷) of two negative numbers is _____
- f The quotient (÷) of two numbers with opposite signs is _____

4 Calculate the answer to these products.

a
$$3 \times (-5)$$

b
$$1 \times (-10)$$

$$\mathbf{c} = -3 \times 2$$

$$d -9 \times 6$$

e
$$-8 \times (-4)$$

f
$$-2 \times (-14)$$

g
$$-12 \times (-12)$$

$$h -11 \times 9$$

$$-13 \times 3$$

$$7 \times (-12)$$

$$\mathbf{k} = -19 \times (-2)$$

$$-36 \times 3$$

$$\mathbf{m} -6 \times (-11)$$

$$\mathbf{n}$$
 5 × (-9)

$$0 -21 \times (-3)$$

p
$$-36 \times (-2)$$

5 Calculate the answer to these quotients.

a
$$14 \div (-7)$$

b
$$36 \div (-3)$$

c
$$-40 \div 20$$

d
$$-100 \div 25$$

e
$$-9 \div (-3)$$

f
$$-19 \div (-19)$$

g
$$-25 \div 5$$

h
$$38 \div (-2)$$

i
$$84 \div (-12)$$
 j $-108 \div 9$ k $-136 \div 2$

m
$$-132 \div (-11)$$
 n $-39 \div (-3)$ 0 $78 \div (-6)$

$$k -136 \div 2$$

l
$$-1000 \div (-125)$$

p $-156 \div (-12)$

Work from left to right to find the answer. Check your answer using a calculator.

a
$$2 \times (-3) \times (-4)$$

b
$$-1 \times 5 \times (-3)$$

$$c$$
 $-10 \div 5 \times 2$

d
$$-15 \div (-3) \times 1$$

e
$$-2 \times 7 \div (-14)$$

e
$$-2 \times 7 \div (-14)$$
 f $100 \div (-20) \times 2$

g
$$48 \div (-2) \times (-3)$$

h
$$-36 \times 2 \div (-4)$$
 i $-125 \div 25 \div (-5)$

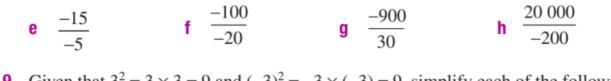
$$i -125 \div 25 \div (-5)$$

$$-8 \div (-8) \div (-1)$$

k
$$46 \div (-2) \times (-3) \times (-1)$$
 l $-108 \div (-12) \div (-3)$

$$-108 \div (-12) \div (-3)$$

7	Wı	rite down the missing nur	mbe	r in these calculations.		
	a	$5 \times \square = -35$	b	$\times (-2) = -8$	C	$16 \div \Box = -4$
	d	$-32 \div \Box = -4$	е	$\div (-3) = -9$	f	
	g	$-5000 \times \square = -10000$	h	$-87 \times \square = 261$	i	243 ÷ = -81
	j	$50 \div \Box = -50$	k	$-92 \times \square = 184$	ľ	$-800 \div \Box = -20$
8	Re	member that $\frac{9}{3}$ means 9	÷ 3.	Use this knowledge to simple	lify	each of the following.
		$\frac{-12}{4}$ b $\frac{21}{-7}$				d $\frac{-124}{-4}$



9 Given that
$$3^2 = 3 \times 3 = 9$$
 and $(-3)^2 = -3 \times (-3) = 9$, simplify each of the following.
a $(-2)^2$ **b** $(-1)^2$ **c** $(-9)^2$ **d** $(-10)^2$
e $(-6)^2$ **f** $(-8)^2$ **g** $(-3)^2$ **h** $(-1.5)^2$

e
$$(-6)^2$$
 f $(-8)^2$ **g** $(-3)^2$ **h** $(-1.5)^2$

10 List the different pairs of integers that multiply to give these numbers.

b 16

a 6

11 Insert a multiplication or division sign between the numbers to make a true statement.

b
$$-25 \square -5 \square 3 = 15$$

c
$$-36 2 -3 = 216$$

d
$$-19 \square -19 \square 15 = 15$$

12 a There are two distinct pairs of numbers whose product is -8 and difference is 6. What are the two numbers?

b The quotient of two numbers is -11 and their difference is 36. What are the two numbers? There are two distinct pairs to find.

13 Given that 2^4 means $2 \times 2 \times 2 \times 2$ and $(-2)^4 = -2 \times -2 \times -2 \times -2$

a Calculate:

$$(-2)^3$$

$$(-2)^6$$

$$(-3)^3$$

$$(-3)^4$$

b Which questions from part **a** give positive answers and why?

c Which questions from part **a** give negative answers and why?

14 $a \times b$ is equivalent to ab, and $2 \times (-3)$ is equivalent to $-(2 \times 3)$. Use this information to simplify these expressions.

a
$$a \times (-b)$$

b
$$-a \times b$$

$$\mathbf{c} -a \times (-b)$$