

Equations

All Multiple Choice

1 The equation which best represents the statement 'I am thinking of a number — when I add 15 the result is 32' is:

- A $n + 32 = 15$
- B $n + 15 = 32$
- C $15n = 32$
- D $\frac{15}{n} = 32$

2 The equation which best represents the statement 'I am thinking of a number — if I add 7 and then double it the result is 11' is:

- A $2n + 7 = 11$
- B $2 + 7 + n = 11$
- C $11 + 2n = 7$
- D $2(n + 7) = 11$

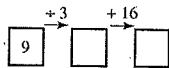
3 The solution to the equation $k - 8 = 18$ is:

- A $k = 8$
- B $k = 10$
- C $k = 20$
- D $k = 26$

4 The solution to the equation $8a = 32$ is:

- A $a = 4$
- B $a = 8$
- C $a = 24$
- D $a = 40$

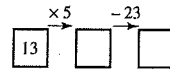
5 The output number for the following flow chart is:



- A 3
- B 13
- C 16
- D 19

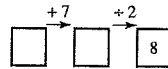
Name: _____

6 The output number for the following flow chart is:



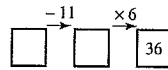
- A 39
- B 41
- C 42
- D 65

7 The input number for the following flow chart must be:



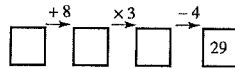
- A 3
- B 5
- C 7
- D 9

8 The input number for the following flow chart must be:



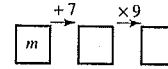
- A 9
- B 11
- C 13
- D 17

9 The input number for the following flow chart must be:



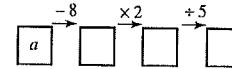
- A 2
- B 3
- C 4
- D 5

10 The expression which is built up by the following flow chart is:



- A $9m + 7$
- B $\frac{m+7}{9}$
- C $\frac{9m}{7}$
- D $9(m+7)$

11 The expression which is built up by the following flow chart is:



- A $\frac{2a-8}{5}$
- B $\frac{2(a-8)}{5}$
- C $\frac{a-8}{5}$
- D $2a - \frac{8}{5}$

12 The inverse operation of $\times 15$ is:

- A $\div 15$
- B $\times 15$
- C $+15$
- D -15

13 The solution to the equation $8p + 3 = 11p - 12$ is:

- A $p = 3$
- B $p = 4$
- C $p = 5$
- D $p = 6$

14 The solution to the equation

$$4(n+2) = \frac{11n-5}{2} \text{ is:}$$

- A $n = 5$
- B $n = 6$
- C $n = 7$
- D $n = 8$

15 The two numbers which have a sum of 19 and a product of 84 are:

- A 7 and 12
- B 6 and 13
- C 5 and 14
- D 4 and 15

16 The two numbers which have a sum of 124 and a product of 3723 are:

- A 19 and 105
- B 36 and 88
- C 47 and 77
- D 51 and 73

17 Wallace earns one third of the money that Charlotte earns. If Charlotte earns y dollars, then Wallace must earn:

- A $\frac{y}{3}$
- B $3y$
- C $y + 3$
- D $\frac{3}{y}$

18 Lachie is 15 years older than Susan. If Susan is m years old, then the total of their ages is:

- A $m + 15$
- B $m + m$
- C $2(m + 15)$
- D $2m + 15$

19 The product of two numbers is 45. If one of the numbers is d , then the other number is:

- A $45 - d$
- B $45 + d$
- C $\frac{d}{45}$
- D $\frac{45}{d}$

20 If a is the smaller of two consecutive odd numbers, then the sum of the two numbers is:

- A $2a$
- B $2a + 2$
- C $2(a + 2)$
- D $2a - 2$

Equations

Name: _____

1 Write an equation to represent each of these puzzles.

I am thinking of a number —

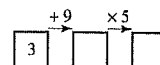
- (a) when I add 8 to it the answer is 76
- (b) when I subtract 16 from it the answer is 4
- (c) when I multiply it by 15 the answer is 135
- (d) when I divide it by 7 the answer is 8.

2 Solve the following equations by inspection.

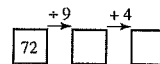
- (a) $h - 9 = 14$
- (b) $t + 13 = 50$
- (c) $18m = 54$
- (d) $\frac{w}{4} = 11$

3 Complete the following flow charts to find the output number.

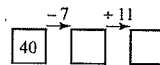
(a)



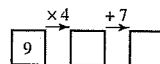
(b)



(c)

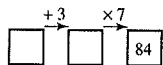


(d)

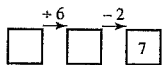


4 Use backtracking and inverse operations to find the input number in each of these flow charts.

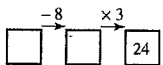
(a)



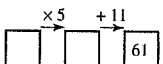
(b)



(c)

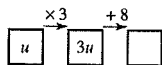


(d)

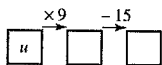


5 Build up an expression by following the instructions on the flow chart.

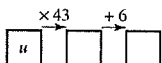
(a)



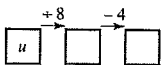
(b)



(c)

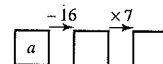


(d)

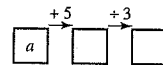


6 Build up an expression by following the instructions on the flow chart.

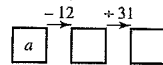
(a)



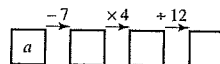
(b)



(c)



(d)



7 Draw the flow chart whose input is d and whose output is given by the expression:

(a) $2d - 4$

(b) $5d + 19$

(c) $\frac{d}{8} - 2$

(d) $\frac{4d}{11} + 7$

8 Draw the flow chart whose input is h and whose output is given by the expression:

(a) $4(h-8)$

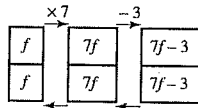
(b) $19(5h+1)$

(c) $\frac{h-9}{6}$

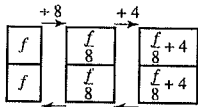
(d) $\frac{3(7h+8)}{7}$

9 Complete these flow charts by writing in the operations that must be carried out in order to backtrack to f .

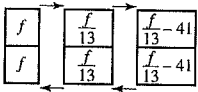
(a)



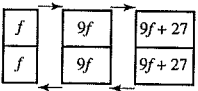
(b)



(c)

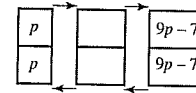


(d)

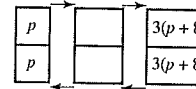


10 Complete these flow charts by writing in the operations which must be carried out in order to backtrack to p .

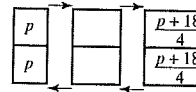
(a)



(b)



(c)



(d)

