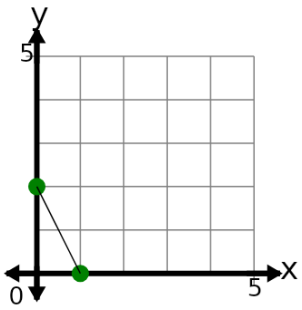
Name

Algebra Basic Concepts - Advanced

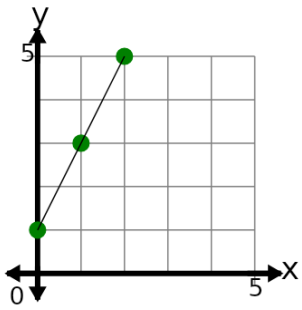
1 What graph matches this chart of X, Y values?

X	Y
0	1
1	3
2	5

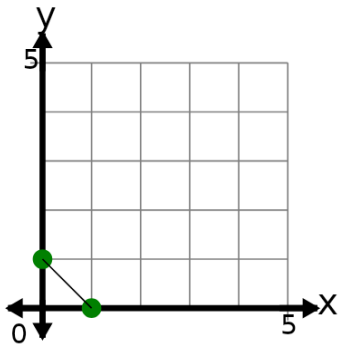
A



B



2 What chart of X, Y values matches this graph?



A

X	Y
0	1
1	2

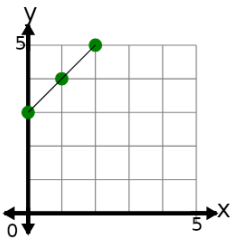
B

X	Y
0	1
1	0

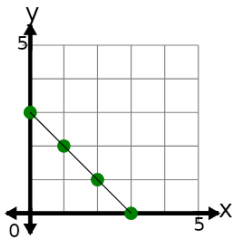
3 What graphed line shows this equation?

$$y = 1x + 3$$

A



B



4 Which equations represent what these meals cost

8 🍎 = 24

2 🍎 + 6 🥯 = 24

1 🍎 + 1 🥯 = ?

5 Which equations represent what these meals cost

3 🍗 + 3 🥯 = 15

3 🍗 + 1 🥯 = 7

1 🥯 = ?

6 Which equations represent what these meals cost

6 🥗 = 6

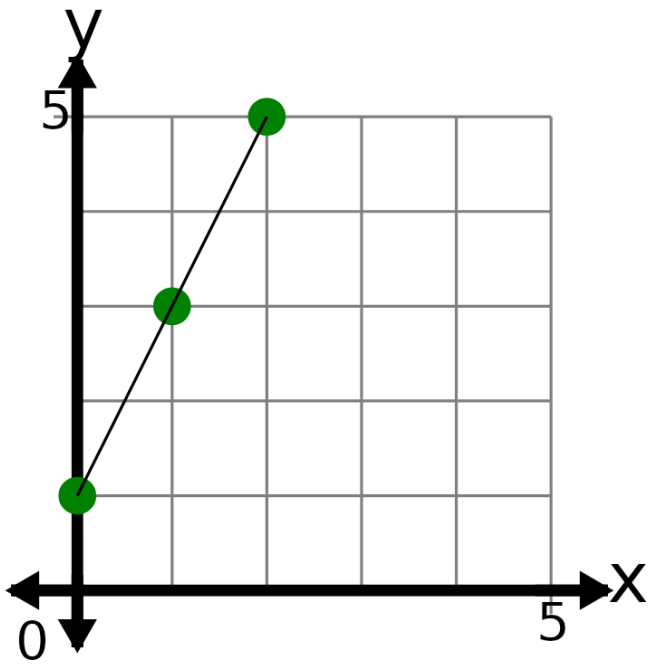
4(2 🥗 + 1 🍜) = 20

1 🍜 = ?

Name

Algebra Basic Concepts - Advanced

7 What equation would create this graph?



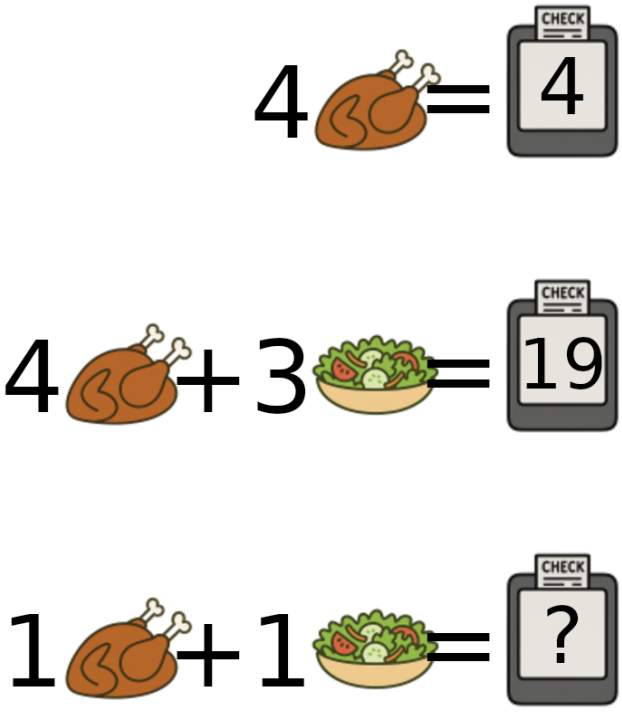
A $y = \frac{2}{2}x + 1$

B $y = 2x + 1$

C $y = \frac{1}{2}x + 1$

D $y = -2x + 1$

8 What would the bottom meal cost?



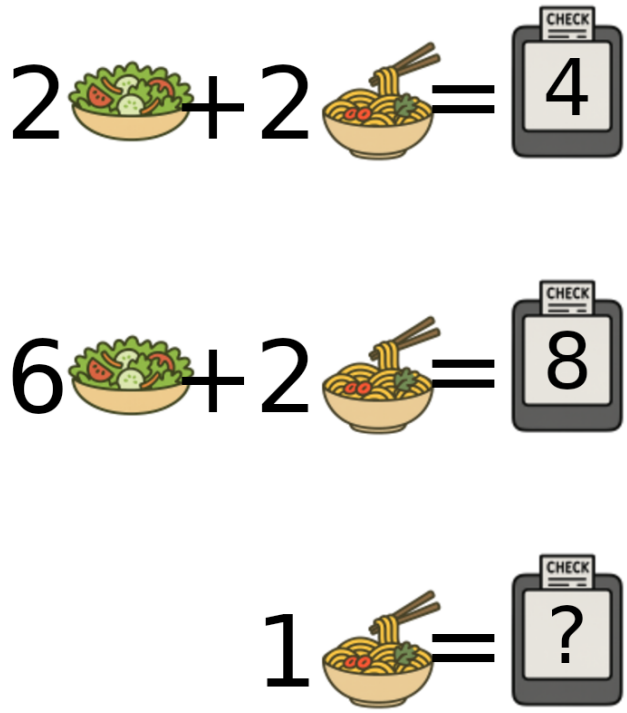
A 

B 

Name

Algebra Basic Concepts - Advanced

9 What would the bottom meal cost?



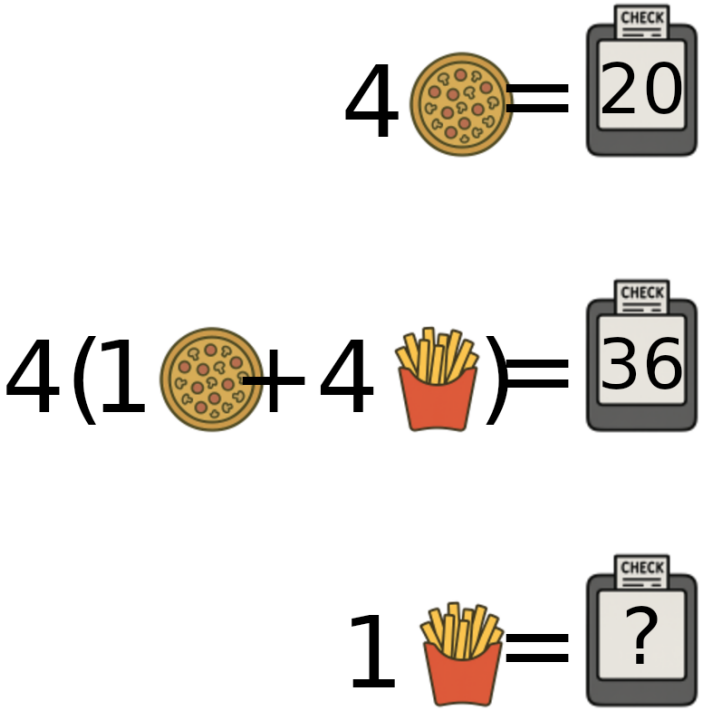
A



B



10 What would the bottom meal cost?



A



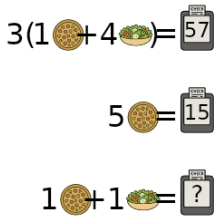
B



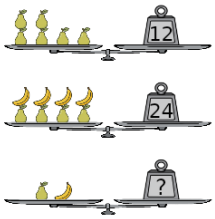
Name

Algebra Basic Concepts - Advanced

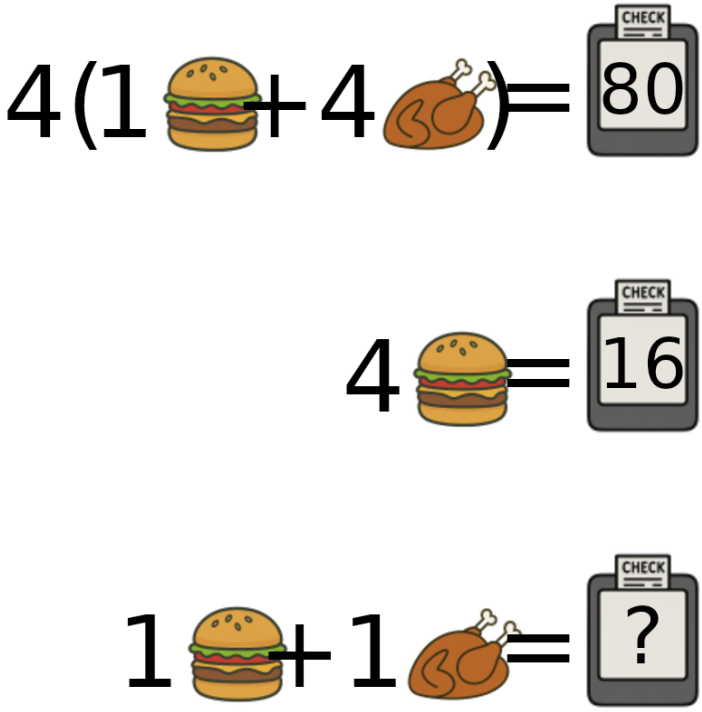
11 Which equations represent what these meals cost



12 Which equations represent what these scales are showing



13 What would the bottom meal cost?



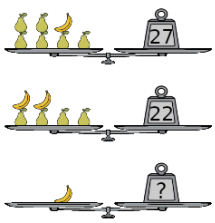
A



B



14 Which equations represent what these scales are showing



15 Which answer is the same expression as this

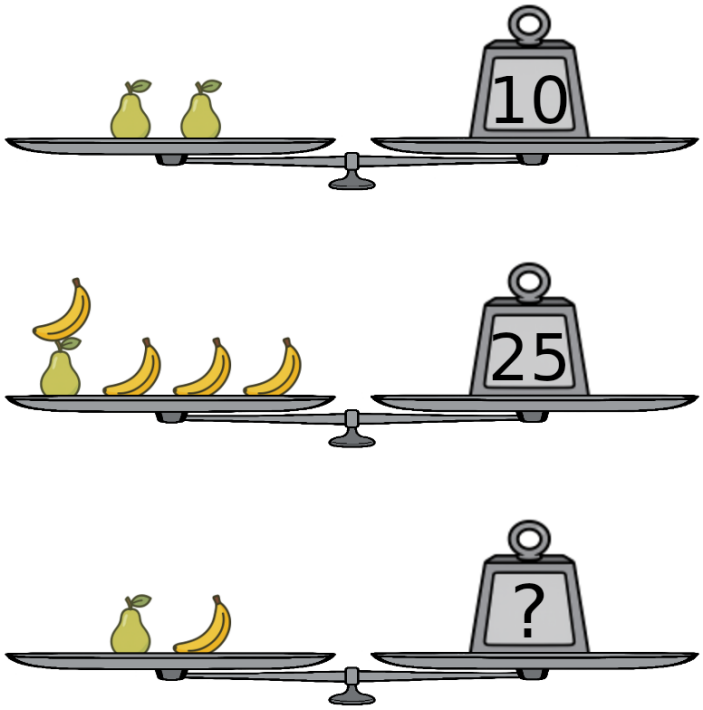
$$x(b-4)$$

A $xb+4$	B $xb-4$
C x^2+4x	D x^2-4x
E $xb-4x$	F b^2-4x

Name

Algebra Basic Concepts - Advanced

16 What weight would balance the bottom scale?



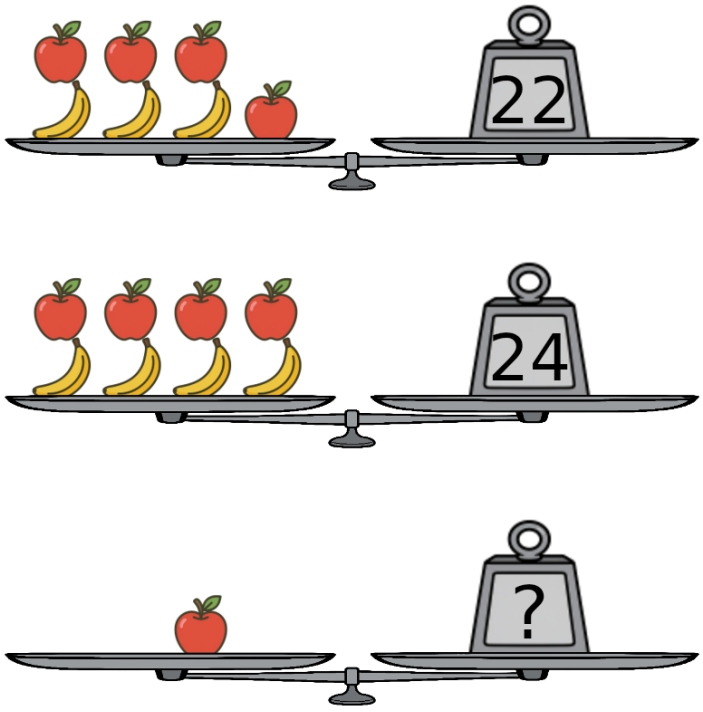
A



B



17 What weight would balance the bottom scale?



A



B



Name

Algebra Basic Concepts - Advanced

18 Which equations represent what these meals cost

2 🍔 + 4 🍟 = 22

6 🍔 + 2 🍟 = 26

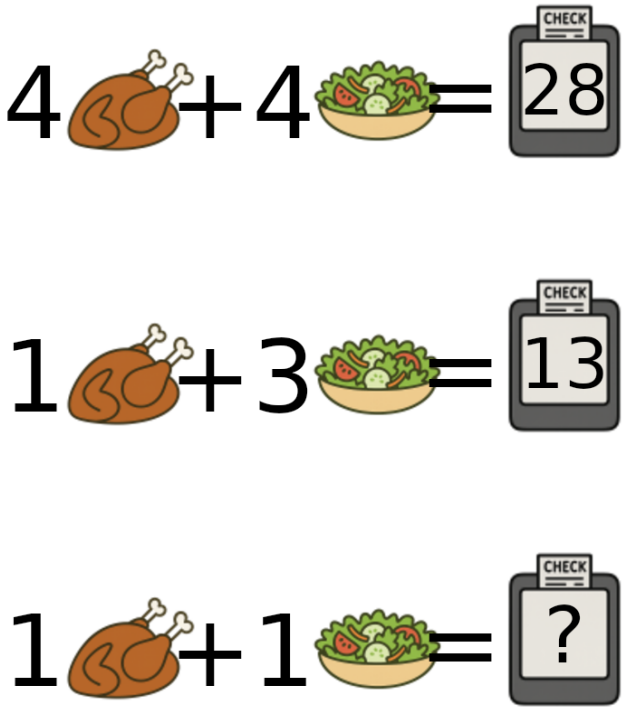
1 🍔 + 1 🍟 = ?

19 Which answer is the same expression as this

$$n(n-3)$$

A	$n+3$	B	$2n^2+3n$
C	n^3-3n	D	n^2-3n
E	$3n^2-3n$	F	$n-3$

20 What would the bottom meal cost?



A



B



21 Which answer is the same expression as this

$$(n+9)(y-8)$$

A	$17ny+9y-8n-72$
B	$ny+9y-8n-72$

22 Which answer is the same expression as this

$$(p-3)(p+7)$$

A	$21p^2+4p-21$
B	$p^2+4p-21$

Name

Algebra Basic Concepts - Advanced

23 Which answer is the same expression as this

$$(t-9)(w+4)$$

A

$$tw+9w-4t-36$$

B

$$tw-9w+4t-36$$

24 Which answer is the same expression as this

$$(z-4)(z+7)$$

A

$$z^2+11z-28$$

B

$$z^2+3z-28$$

25 Which answer is the same expression as this

$$(m-3)(q-7)$$

A

$$mq-3q-7m+21$$

B

$$mq-3q-7m+13$$

26 Which answer is the same expression as this

$$(n-9)(n+4)$$

A

$$n^2-5n-17$$

B

$$n^2-5n-36$$

27 Which answer is the same expression as this

$$(z+8)(x+3)$$

A

$$zx+8x+3z+11$$

B

$$zx+8x+3z+24$$

28 Which answer is the same expression as this

$$(x+9)(x+3)$$

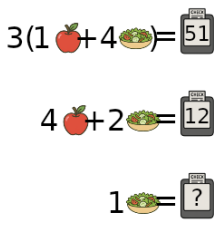
A

$$27x^2+12x+15$$

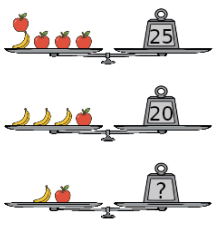
B

$$x^2+12x+27$$

29 Which equations represent what these meals cost



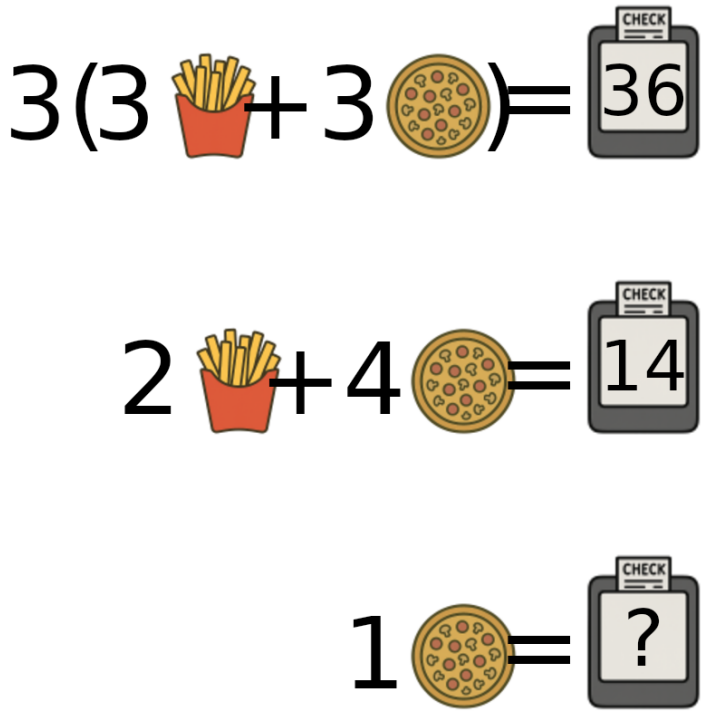
30 Which equations represent what these scales are showing



Name

Algebra Basic Concepts - Advanced

31 What would the bottom meal cost?



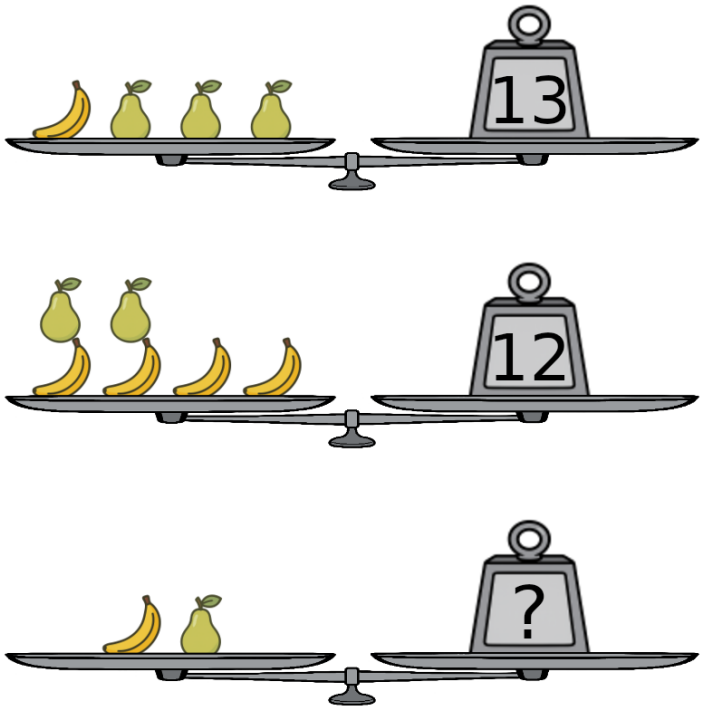
A



B



32 What weight would balance the bottom scale?



A



B



Name



Algebra Basic Concepts - Advanced

33 Solve the fraction for 'x' in terms of the variables and reduce.

$$a = \frac{x}{4b}$$

A $x = 4a \cdot b$

B $x = \frac{b}{4a}$

C $x = \frac{4a}{b}$

D $x = \frac{a \cdot b}{4}$

34 Solve the fraction for 'x' in terms of the variables and reduce.

$$a = \frac{2c}{x}$$

A $x = \frac{2c}{a}$

B $x = \frac{a}{2c}$

C $x = 2a \cdot c$

D $x = \frac{c}{2a}$

35 Solve the fraction for 'x' in terms of the variables and reduce.

$$2a = \frac{4x}{b}$$

A $x = \frac{a \cdot b}{2}$

B $x = \frac{b}{a}$

C $x = \frac{b}{8a}$

D $x = \frac{a}{2b}$

E $x = \frac{b}{2a}$

36 Solve the fraction for 'x' in terms of the variables and reduce.

$$a = \frac{4b}{4x}$$

A $x = \frac{b}{16a}$

B $x = \frac{a \cdot b}{16}$

C $x = \frac{b}{a}$

D $x = \frac{a}{b}$

E $x = \frac{a}{16b}$

Name

Algebra Basic Concepts - Advanced

37 Solve the fraction for 'x' in terms of the variables and reduce.

$$a = \frac{e}{2x}$$

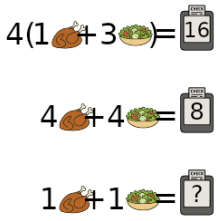
A $x = \frac{e}{2a}$

B $x = \frac{a \cdot e}{2}$

C $x = \frac{e}{a}$

D $x = \frac{a}{2e}$

38 Which equations represent what these meals cost



39 Solve the fraction for 'x' in terms of the variables and reduce.

$$2a = \frac{4c}{x}$$

A $x = \frac{c}{2a}$

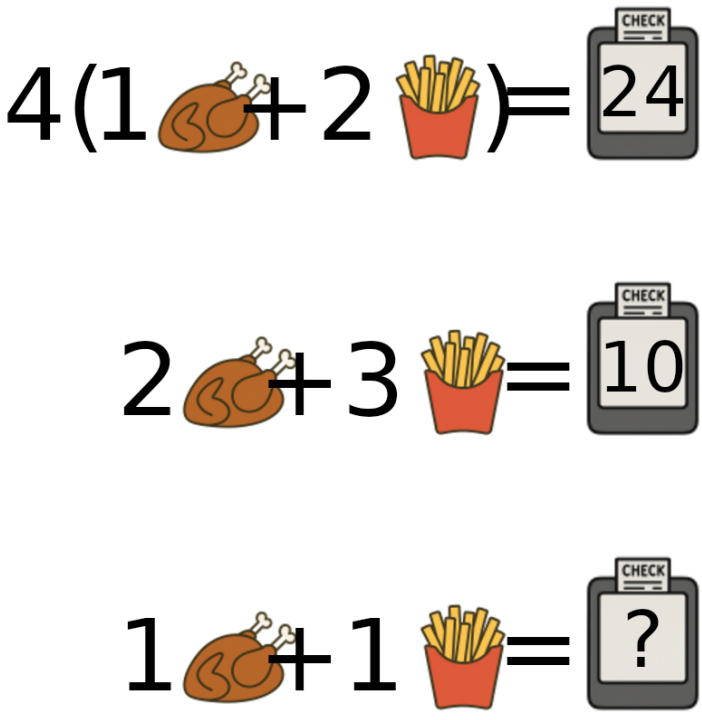
B $x = \frac{c}{a}$

C $x = \frac{c}{8a}$

D $x = \frac{2c}{a}$

E $x = \frac{a}{2c}$

40 What would the bottom meal cost?



A



B



Name



Algebra Basic Concepts - Advanced

41 Solve for the variable in the equation

$$z - 5 = 2 - 4$$

A $z = 4$	B $z = 3$
C $z = 0$	D $z = 1$
E $z = 5$	F $z = 6$

42 Solve the fraction for 'x' in terms of the variables and reduce.

$$4a = \frac{4x}{4b}$$

A $x = 4a \cdot b$	B $x = \frac{a \cdot b}{4}$
C $x = \frac{b}{4a}$	D $x = \frac{a}{4b}$
E $x = \frac{b}{a}$	

43 Solve the fraction for 'x' in terms of the variables and reduce.

$$4a = \frac{2b}{3x}$$

A $x = \frac{a}{6b}$	B $x = \frac{b}{6a}$
C $x = \frac{2b}{3a}$	D $x = \frac{b}{24a}$

44 Solve the fraction for 'x' in terms of the variables and reduce.

$$4a = \frac{4b}{2x}$$

A $x = \frac{b}{2a}$

B $x = \frac{a \cdot b}{2}$

C $x = \frac{a}{2b}$

D $x = 8a \cdot b$

45 Solve for the variable in the equation

$$50 \div (5 \times d) = 5$$

A $d = 0$	B $d = 2$
C $d = 3$	D $d = 1$
E $d = 5$	F $d = 4$

46 Solve for the variable in the equation

$$y + 5 = 15 - 5$$

A $y = 6$	B $y = 7$
C $y = 4$	D $y = 8$
E $y = 5$	F $y = 2$

Name



Algebra Basic Concepts - Advanced

47 Solve for the variable in the equation

$$2c = 35 - 3c$$

A $c = 6$	B $c = 4$
C $c = 5$	D $c = 9$
E $c = 8$	F $c = 7$

48 Solve for the variable in the equation

$$3p - 2 = 33 - 2p$$

A $p = 10$	B $p = 7$
C $p = 5$	D $p = 4$
E $p = 8$	F $p = 9$

49 What is the value of this equation when c=2, x=5

$$3c^2 - 4x^2$$

A $3c - -88$	B 32
C -12	D 112
E $112c$	F -88

50 Solve for the variable in the equation

$$\frac{60}{4m + 8} = 3$$

A $m = 1$	B $m = 2$
C $m = 6$	D $m = 3$
E $m = 5$	F $m = 4$

51 What is the value of this equation when n=5, b=2, p=3

$$\frac{6n^2 + 6p^2}{3b}$$

A $34n$	B $6n - 34$
C 34	D 2
E 156	F 162

52 What is the value of this equation when p=5, m=3

$$(6p - 6m)^2$$

A -150	B 144
C -204	D $p^6 + 144$
E 168	F $144p$

53 What is the value of this equation when y=8, x=4, p=6, m=2

$$\frac{3y^2}{6x^2} + \frac{6p^2}{6m^2}$$

A 1	B -288
C 216	D $y^3 + 11$
E 11	F $11y$

54 What is the value of this equation when z=8, d=7, n=5

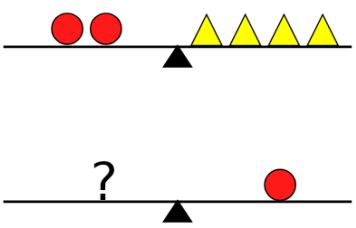
$$\frac{5z^2}{5d^2 + 3n^2}$$

A 4	B $5z - 1$
C $z^5 + 1$	D 1
E 565	F $-3z$

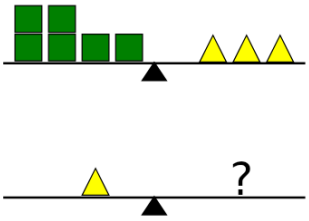
Name

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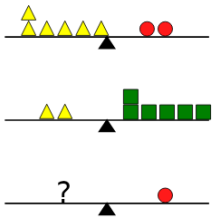
55 Which equations and answer represent these balance beams and the bottom solution



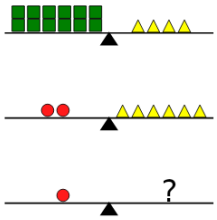
56 Which equations and answer represent these balance beams and the bottom solution



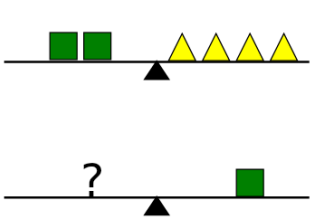
57 Which equation and answer represents these balance beams and the bottom solution



58 Which equation and answer represents these balance beams and the bottom solution



59 Which equation represents the solution to the bottom scale?



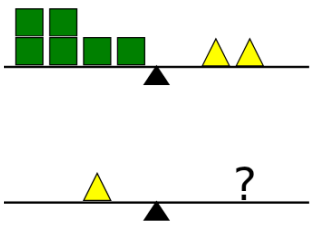
A $t + s = s$

B $2t + s = s$

C $t = s$

D $2t = s$

60 Which equation represents the solution to the bottom scale?



A $t = s$

B $t = s + t$

C $t = 3s$

D $t = 4s$