Name



Algebra Manipulating Variables - Practice

1 Which answer is the same expression as this

$$y(y-4)$$

A y^2-4y	B y^4-4y
C y^4+4y	D $4y^2-4y$
E $4y^2+4y$	F $y+4$

2 Which answer is the same expression as this

$$(r-2)(w+4)$$

A $6rw-2w+4r-8$

B $rw-2w+4r-8$

3 Which answer is the same expression as this

$$(t+4)(t+7)$$

A $t^2+11t+28$

B $11t^2+11t+28$

4 Which answer is the same expression as this

$$(y+9)(x-7)$$

A $yx-7x+9y-63$

B $yx+9x-7y-63$

5 Which answer is the same expression as this

$$(y+8)(y+8)$$

A $y^2+0y+64$

B $y^2+16y+64$

6 Which answer is the same expression as this

$$(r-4)(p-5)$$

A $rp-4p-5r+20$

B $rp-4p-5r+12$

7 Which answer is the same expression as this

$$(x-2)(x+3)$$

A x^2+1x-8

B x^2+1x-6

8 Which answer is the same expression as this

$$(x+2)(q+9)$$

A $xq+2q+9x+18$

B $xq+9q+18x+2$

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9 Which answer is the same expression as this

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

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

B $x^2+12x+27$

10 Solve for the variable in the equation

$$6\times m-3=33$$

A $m=9$	B $m=7$
C $m=3$	D $m=6$
E $m=5$	F $m=8$

11 Solve for the variable in the equation

$$108\div(3\times x)=9$$

A $x=3$	B $x=5$
C $x=4$	D $x=6$
E $x=2$	F $x=7$

12 Solve for the variable in the equation

$$b+3=18-7$$

A $b=10$	B $b=9$
C $b=7$	D $b=8$
E $b=6$	F $b=11$

13 Solve for the variable in the equation

$$\frac{144}{3b}=6$$

A $b=6$	B $b=10$
C $b=7$	D $b=9$
E $b=11$	F $b=8$

14 Solve for the variable in the equation

$$9p-5=43-3p$$

A $p=1$	B $p=3$
C $p=4$	D $p=6$
E $p=5$	F $p=7$

15 Solve for the variable in the equation

$$\frac{78}{3m+8}=3$$

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

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

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

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

B $x=\frac{b}{9a}$

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

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

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

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

B $x = 4a \cdot b$

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

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

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

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

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

B $x = a \cdot b$

C $x = 16a \cdot b$

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

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

A $x = 3a \cdot b$

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

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

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

$$3a = \frac{c}{x}$$

A $x = \frac{c}{3a}$

B $x = 3a \cdot c$

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

D $x = \frac{3a}{c}$

E $x = \frac{a}{3c}$

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

$$2a = \frac{3c}{2x}$$

A $x = \frac{a}{3c}$

B $x = \frac{3c}{4a}$

C $x = 3a \cdot c$

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

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

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

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

B $x = \frac{a \cdot c}{4}$

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

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

$$2a = \frac{3c}{x}$$

A $x = \frac{c}{6a}$

B $x = \frac{3a}{2c}$

C $x = \frac{3c}{2a}$

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

$$2a = \frac{2c}{3x}$$

A $x = \frac{4a \cdot c}{3}$

B $x = \frac{c}{12a}$

C $x = \frac{c}{3a}$

D $x = \frac{a}{3c}$

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

25 Solve for the variable in the equation

$$m \div 6 = 6$$

A $m = 37$

B $m = 33$

C $m = 34$

D $m = 39$

E $m = 35$

F $m = 36$

26 Solve for the variable in the equation

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

A $x = 4$

B $x = 2$

C $x = 5$

D $x = 6$

E $x = 3$

F $x = 1$

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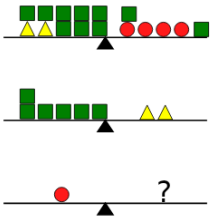
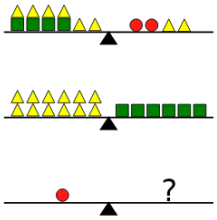
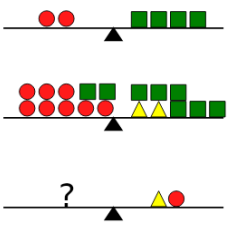
27 Which equation and answer represents these balance beams and the bottom solution



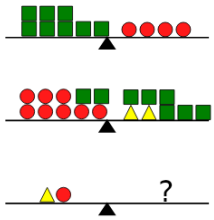
28 Which equation and answer represents these balance beams and the bottom solution



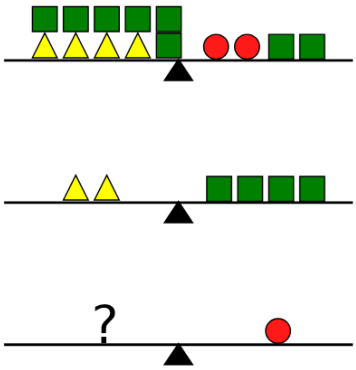
29 Which equation and answer represents these balance beams and the bottom solution



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



31 Which equation represents the solution to the bottom scale?



A $3t + s + c = c$

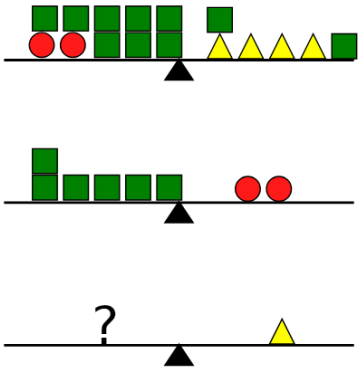
B $3t + 2s = c$

C $3t + s = c$

D $3t = c$

E $3t + c = c$

32 Which equation represents the solution to the bottom scale?



A $c + 5t = t$

B $c + t = t$

C $5t = t$

D $c = t$

E $c + 2t = t$