A.A.23: Transforming Formulas 2: Solve literal equations for a given variable

1 If $3ax + b = c$, then x equals

2 If the formula for the perimeter of a rectangle is $P = 2l + 2w$, then w can be expressed as

3 The members of the senior class are planning a dance. They use the equation $r = pn$ to determine the total receipts. What is n expressed in terms of r and p ?

4 A formula used for calculating velocity is $v = \frac{1}{2}at^2$. What is a expressed in terms of v and t?

5 If $s = \frac{2x + t}{r}$, then x equals

6 If $\frac{ey}{n} + k = t$, what is y in terms of e, n, k, and t?

7 If $a + ar = b + r$, the value of a in terms of b and r can be expressed as

8 If $k = am + 3mx$, the value of m in terms of a, k, and x can be expressed as

9 Solve for c in terms of a and b: $bc + ac = ab$

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Answer Section

1 ANS:

$\frac{c-b}{3a}$

$3ax+b=c$

$3ax=c-b$

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

REF: 080808ia

2 ANS:

$w=\frac{P-2l}{2}$

$P=2l+2w$

$P-2l=2w$

$\frac{P-2l}{2}=w$

REF: 010911ia

3 ANS:

$n=\frac{r}{p}$

REF: 011016ia

4 ANS:

$a=\frac{2v}{t^2}$

REF: 061023ia

5 ANS:

$\frac{rs-t}{2}$

$s=\frac{2x+t}{r}$

$rs=2x+t$

$rs-t=2x$

$\frac{rs-t}{2}=x$

REF: 011228ia

6 ANS:

$y = \dfrac{n(t-k)}{e}$

$\dfrac{ey}{n} + k = t$

$\dfrac{ey}{n} = t - k$

$y = \dfrac{n(t-k)}{e}$

REF: 011125ia

7 ANS:

$\dfrac{b+r}{1+r}$

$a + ar = b + r$

$a(1+r) = b + r$

$a = \dfrac{b+r}{1+r}$

REF: 060913ia

8 ANS:

$\dfrac{k}{a+3x}$

$k = am + 3mx$

$k = m(a+3x)$

$\dfrac{k}{a+3x} = m$

REF: 061215ia

9 ANS:

$bc + ac = ab$

$c(b+a) = ab$

$c = \dfrac{ab}{b+a}$

REF: 081131ia