Equation or identity?

1

Work out both sides for $x = 1$, 2 and 3.
Equation or identity?

$3(x + 4)$ ☐ $3x + 12$

x	left side	right side	equal?
1	15	15	✓
2			
3			

equation identity

2

Work out both sides for $x = 1$, 2 and 3.
Equation or identity?

$5x - 4$ ☐ $3x + 2$

x	left side	right side	equal?
1	1	5	✗
2			
3			

equation identity

3

Work out both sides for $x = 1$, 2 and 3.
Equation or identity?

$x + x + 2$ ☐ $2(x + 1)$

x	left side	right side	equal?
1			
2			
3			

equation identity

4

Work out both sides for $x = 1$, 2 and 3.
Equation or identity?

$2x + 7$ ☐ $4x + 3$

x	left side	right side	equal?
1			
2			
3			

equation identity

5

Show that the two sides are identical.

$2(x + 5) - 3 \equiv 2x + 7$

6

Tom puts $x = 3$ into both sides of
$2x + 4 = 4x - 2$ and gets 10 both times.
He says it is an identity.
Is Tom right? Explain.

Answer _____

7

Show that the two sides are identical.

$3(2x + 1) + 2(x + 4) \equiv 8x + 11$

8

Show that the two sides are identical.

$(x + 2)^2 - 4 \equiv x(x + 4)$

Equation or identity? *further practice*

9

Show that the two sides are identical.

$5(x - 1) + 2x \equiv 7x - 5$

10

Circle each identity.

$3(x + 2) = 3x + 6$

$4x - 1 = 11$

$2x \times 3 = 6x$

$7 - x = x + 1$

11

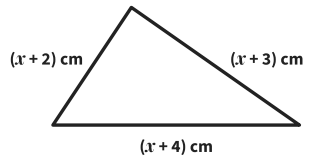
Find the value of a.

$2(3x + a) \equiv 6x + 10$

Answer _____

12

Show that the perimeter of this triangle is $3(x + 3)$ cm, whatever the value of x.



13

Is $4(x - 1) + 6 = 4x + 2$ an equation or an identity? If it is an equation, solve it.

It is _____

14

Show that the two sides are identical.

$(x + 3)^2 - (x + 1)^2 \equiv 4(x + 2)$

15

Find the values of a and b.

$5(x + a) + 2 \equiv bx + 17$

$a =$ _____

$b =$ _____

16

Jay works out both sides of $3x + 1 = x + 10$ for $x = 1$, 2 and 3. The sides are never equal. He says it is not an equation. Is he right? Explain.

Answer _____