

Equations and Relationships Review solutions

① A. $2 + x = 3$
 $2 + 5 = 3$
 $\quad \quad \quad \checkmark$
 $\quad \quad \quad 7 \neq 3$

C. $\frac{x}{2} = 10$
 $\frac{5}{2} = 10$

ⓑ. $3x = 15$
 $3(5) = 15$
 $\quad \quad \quad \checkmark$
 $\quad \quad \quad 15 = 15 \checkmark$

D. $x - 7 = 12$
 $5 - 7 = 12$
 $\quad \quad \quad \checkmark$
 $\quad \quad \quad -2 \neq 12$

2) All equations must have an equal sign!

C. $\frac{y}{9} = 3$

3)

x	15	5	3	1
y	1	3	5	15

~~A.~~ $y = 15x$
 $1 = (15)(15)$
 $1 \neq 225$

~~B.~~ $y = x - 14$
 $1 = 15 - 14$
 $1 = 1 \checkmark$

$y = x - 14$
 $3 = 5 - 14$
 $3 \neq -9$

~~C.~~ $y = x + 2$
 $1 = 15 + 2$
 $1 \neq 17$

ⓓ.

$y = \frac{15}{x}$
 $1 = \frac{15}{15}$
 $1 = 1 \checkmark$

$y = \frac{15}{x}$
 $3 = \frac{15}{5}$
 $3 = 3 \checkmark$

$y = \frac{15}{x}$
 $5 = \frac{15}{3}$
 $5 = 5 \checkmark$

~~15~~ $= \frac{15}{1}$
 $15 = 15 \checkmark$

4. Sahil = 28 questions Right

Angelina got 7 more wrong answers.

40 total questions.

$a =$ answers correct ^{Angelina got}

↳ Sahil got 7 more correct answers than Angelina.

$$\boxed{a + 7 = 28}$$

5.

$$\begin{array}{r} 9 = n + 3 \\ -3 \quad -3 \\ \hline \boxed{6 = n} \end{array}$$

check

$$\begin{aligned} 9 &= n + 3 \\ 9 &= 6 + 3 \\ 9 &= 9 \checkmark \end{aligned}$$

6. (A.)

$$\begin{array}{r} x - 6 = 6 \\ +6 \quad +6 \\ \hline \boxed{x = 12} \end{array}$$

7.

$$\begin{array}{r} 3 = t - 12 \\ +12 \quad +12 \\ \hline \boxed{15 = t} \end{array}$$

check

$$\begin{aligned} 3 &= t - 12 \\ 3 &= 15 - 12 \\ 3 &= 3 \checkmark \end{aligned}$$

8) $49.99 \pm 42.50 + m \leftarrow \text{money saved}$
 $\begin{array}{r} 49.99 \\ -42.50 \\ \hline 7.49 = m \end{array}$

9) ~~$\frac{r}{2} = \frac{16}{1}$~~
 $r = 32$
 $\hookrightarrow \neq 8$

~~$\frac{8}{1} = \frac{r}{8}$~~
 $64 = r$
 $\hookrightarrow \neq 8$

~~$\frac{4r}{4} = \frac{16}{4}$~~
 $r = 4 \neq 8$

~~$\frac{2r}{2} = \frac{16}{2}$~~
 $r = 8 = 8 \checkmark$

10) ~~$\frac{32}{1} = \frac{9}{2}$~~
 $64 = 9$

check
 $32 = \frac{9}{2}$
 $32 = \frac{64}{2}$
 $32 = 32 \checkmark$

$$1) \quad \frac{16}{2} = \frac{2w}{2}$$

$$\boxed{8 = w}$$

$$2) \quad \frac{19}{19} = \frac{133}{19}$$

$$\boxed{= 7}$$

$$19 \overline{) 133}$$

$$\underline{-133}$$

$$0$$

$$\begin{array}{r} 19 \\ \times 7 \\ \hline 133 \end{array}$$

$$3) \quad x \leq -4$$

closed circle.

$$14) \quad \text{Is it true } n=9 \text{ when } 2+n=7?$$

NO!

$$2 + 9 = 7$$

$$\downarrow$$

$$11 \neq 7$$

$$15) \quad w + 12 = 38$$

$$\underline{-12 \quad -12}$$

$$\boxed{w = 26}$$

$$16) \quad \begin{array}{r} b - 12 = 18 \\ + 12 \quad + 12 \\ \hline b = 30 \end{array}$$

$$\boxed{b - 12 = 18}$$

(17) Is it true $n = 3.5$ when given

$$2n = 70 ?$$

$$2(3.5) = 70$$

✓

$$7 \neq 70 \times$$

NO!

(18) $m - 3 = 13.8$

$$\begin{array}{r} m - 3 = 13.8 \\ + 3 \quad + 3. \\ \hline \end{array}$$

$$\boxed{m = 16.8}$$

check

$$m - 3 = 13.8$$

$$16.8 - 3 = 13.8$$

$$13.8 = 13.8 \checkmark$$

(9) $2.3 = p + .6$

$$\begin{array}{r} 2.3 = p + .6 \\ - .6 \quad - .6 \\ \hline \end{array}$$

$$\boxed{1.7 = p}$$

check

$$2.3 = p + .6$$

$$2.3 = 1.7 + .6$$

$$2.3 = 2.3 \checkmark$$

$$\begin{array}{r} 1.7 \\ + .6 \\ \hline 2.3 \end{array}$$

(20) $c - 3 = 18$

$$\begin{array}{r} c - 3 = 18 \\ + 3 \quad + 3 \\ \hline \end{array}$$

$$\boxed{c = 21}$$

check

$$21 - 3 = 18$$

✓

$$18 = 18 \checkmark$$

21) $250 + 17.50 = 267.50$

x2 17.50	?
x2 267.50	100

↓ $\div 5.35$

35	6.5%
535	100

$\div 5.35$

$\approx 7\%$

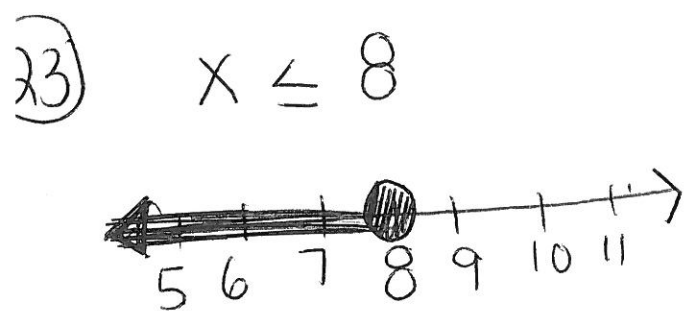
22) $m + 3 = 51$
 $\quad \quad \quad -3$

 $m = 48$

25) $144 = 8m$
 $\quad \quad \quad \div 8$

 $18 = m$

$8 \overline{) 144}$
 $\quad \underline{84}$
 $\quad \quad \underline{60}$
 $\quad \quad \quad 0$



26) $3s = 39$
 $\quad \quad \quad \div 3$

 $s = 13$

24) ~~$d = 6$~~
 ~~$1.2 = d$~~
 $7.2 = d$