One-Step Equations

1a. Jonah is solving the equation $2n = 20$.

Jonah says,

> $n = 18$ because $2 + 18 = 20$.

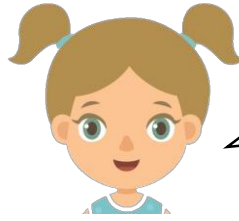Is he correct? Explain your answer.

D — R

One-Step Equations

1b. Amy-Jo is solving the equation $2c = 6$.

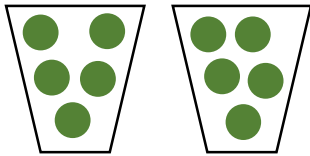Amy-Jo says,

> $c = 8$ because $2 - 8 = 6$.

Is she correct? Explain your answer.

D — R

2a. Greta has created a representation to help her solve the following equation:
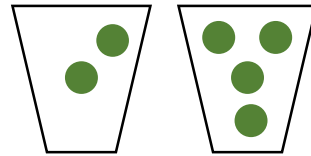
$$2n = 10$$

Is Greta correct? Convince me.

D — R

2b. Brayson has created a representation to help him solve the following equation:
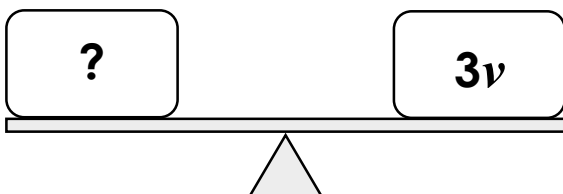
$$12 = 2n$$

Is Brayson correct? Convince me.

D — R

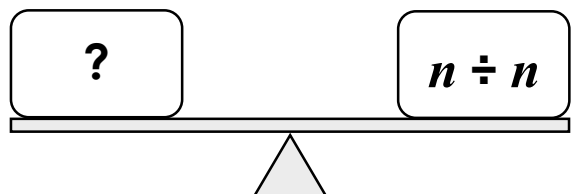**3a.** Create three different equations that will balance the scale when $v = 6$.

Each equation must include a different operation.

? | $3v$

D — PS

3b. Create three different equations that will balance the scale when $n = 4$.

Each equation must include a different operation.

? | $n \div n$

D — PS

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4a. Euan is solving the equation $c + 9 = 36$.

Euan says,

$c = 45$ because $36 + 9 = 45$.

Is he correct? Explain your answer.

R

4b. Maisy is solving the equation $3f = 30$.

Maisy says,

$f = 90$ because $3 \times 30 = 90$.

Is she correct? Explain your answer.

R

5a. Aurora has created a representation to help her solve the following equation:
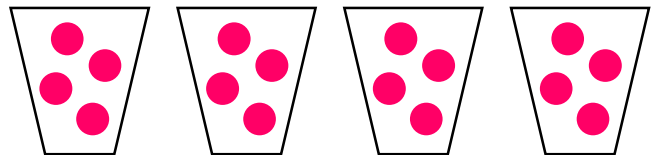
$3b = 15$

Is Aurora correct? Convince me.

R

5b. Jack has created a representation to help him solve the following equation:
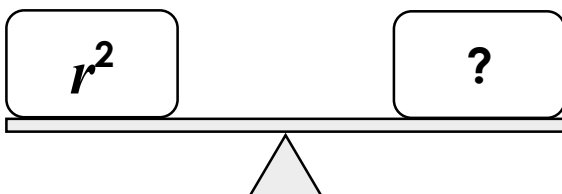
$3n = 12$

Is Jack correct? Convince me.

R

6a. Create three different equations that will balance the scale when $r = 8$.
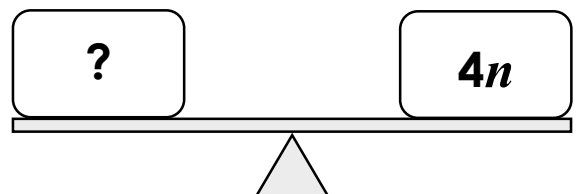
At least one equation must include a decimal number or fraction.

r^2 ?

PS

6b. Create three different equations that will balance the scale when $n = 0.5$.

At least one equation must include a decimal number or fraction.

? $4n$

PS

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Reasoning and Problem Solving – One-Step Equations – Year 6 Expected

7a. Graham is solving the equation $d^2 = 1$.

Graham says,

> d = 0.5 because 0.5 + 0.5 = 1.

Is he correct? Explain your answer.

R

7b. Nell is solving the equation $b - 7 = -4$.

Nell says,
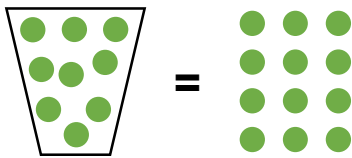
> b = 11 because 11 – 7 = 4.

Is she correct? Explain your answer.

R

8a. Amina has created a representation to help her solve the following equation:
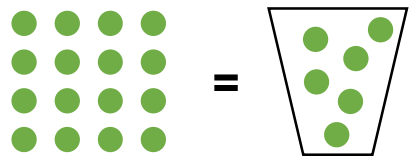
$$b + 3 = 12$$

Is Amina correct? Convince me.

R

8b. Brynn has created a representation to help him solve the following equation:
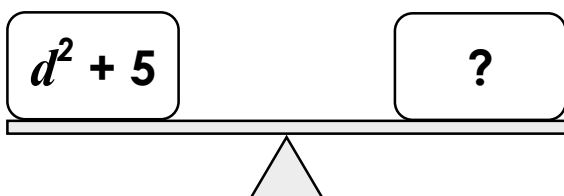
$$16 = x + 10$$

Is Brynn correct? Convince me.

R

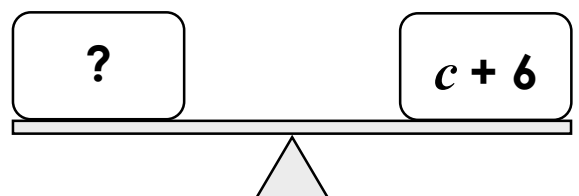**9a.** Create three different equations that will balance the scale when d = 7.

Each equation must include a decimal number or fraction.

$$d^2 + 5 \qquad ?$$

PS

9b. Create three different equations that will balance the scale when c = -5.

Each equation must include a decimal number or fraction.

$$? \qquad c + 6$$

PS

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Reasoning and Problem Solving – One-Step Equations – Year 6 Greater Depth