

West Grove Primary –  
Mathematics Department  
Parents Workshop 2018

# **External Transfer**

# External Transfer – All items changed

- Q1**
- The number of stars Jane had to the number of stars Karen had was 1:5. Then their teacher gave Jane 12 more stars and Karen 5 more stars. The ratio of Karen's stars to Jane's stars became 4:1. How many stars did Karen have at first?

$$\begin{aligned} J : K \\ = 1 : 5 \\ +12 \quad +5 \\ = 4 : 1 \end{aligned}$$

$$1u + 12 = 1p \text{ --- (1)}$$

$$5u + 5 = 4p \text{ --- (2)}$$

$$(1) \times 4 \rightarrow 4u + 48 = 4p \text{ --- (3)}$$

$$5u + 5 = 4u + 48$$

$$1u = 48 - 5 = 43$$

$$5u = 5 \times 43 = \mathbf{215} \text{ (Ans)}$$

**Karen had 215 stars at first.**

# External Transfer – All items changed

Q2

- Megan baked some chocolate and rainbow cakes. The number of chocolate cakes to the number of rainbow cakes was 2 : 5. After baking another 10 chocolate cakes and 45 rainbow cakes, the number of chocolate cakes to the number of rainbow cakes became 1 : 3. How many chocolate cakes did Megan bake at first?

$$\begin{aligned} C : R \\ &= 2 : 5 \\ &\quad +10 \quad +45 \\ &= 1 : 3 \\ 2U + 10 &= 1p \text{ --- (1)} \\ 5U + 45 &= 3p \text{ --- (2)} \end{aligned}$$

$$(1) \times 3 \rightarrow 6U + 30 = 3p \text{ --- (3)}$$

Equating (2) and (3)

$$5U + 45 = 6U + 30$$

$$1U = 45 - 30 = 15$$

$$2U = 2 \times 15 = 30 \text{ (Ans)}$$

**Megan baked 30  
chocolate cakes at first.**

# External Transfer – All items changed

**Q3** Helen had  $\frac{3}{4}$  times as many paper clips as Shirley. If Helen gave 14 paper clips away and Shirley lost 6 paper clips, Helen would have  $\frac{2}{3}$  as many paper clips as Shirley. How many paper clips did they have altogether at first?

$$\begin{array}{l} H : S \\ = 3 : 4 \\ - 14 \quad - 6 \\ = 2 : 3 \\ 3U - 14 = 2p \text{ --- (1)} \\ 4U - 6 = 3p \text{ --- (2)} \end{array}$$
$$\begin{array}{l} (1) \times 3 \rightarrow 9U - 42 = 6p \text{ --- (3)} \\ (2) \times 2 \rightarrow 8U - 12 = 6p \text{ --- (4)} \\ 9U - 42 = 8U - 12 \\ 1U = 42 - 12 = 30 \\ 7U = 7 \times 30 = \mathbf{210} \text{ (Ans)} \end{array}$$

**They had 210 paper clips altogether at first.**

# External Transfer – All items changed

- Q4** ■ Jolin had some blue and red ribbons. The number of blue ribbons was  $\frac{3}{5}$  times the number of red ribbons at first. After a few days, she bought another 4 blue ribbons and used 19 red ribbons. At the end, the number of blue ribbons became twice the number of red ribbons. How many ribbons did Jolin have altogether at the end?

$$\begin{aligned} B : R \\ = 3 : 5 \\ + 4 \quad - 19 \\ = 2 : 1 \end{aligned}$$

$$3U + 4 = 2p \text{ --- (1)}$$

$$5U - 19 = 1p \text{ --- (2)}$$

$$(2) \times 2 \rightarrow 10U - 38 = 2p \text{ --- (3)}$$

$$3U + 4 = 10U - 38$$

$$7U = 38 + 4 = 42$$

$$1U = 42 \div 7 = 6$$

$$\text{From (2)} \rightarrow 1p = 5U - 19$$

$$= 5 \times 6 - 19$$

$$= 30 - 19$$

$$= 11$$

$$3p = 3 \times 11 = \mathbf{33} \text{ (Ans)}$$

**Jolin had 33 ribbons at the end.**

# External Transfer – All items changed

**Q5** Amy had  $\frac{2}{3}$  times as many stickers as Sammy. After Amy and Samy lost 12 stickers and 36 stickers respectively, the ratio of the number of stickers Amy had left to the number of stickers Samy had left was 5 : 3. How many stickers did they have altogether at first?

$$\begin{aligned} & A : S \\ & = 2 : 3 \\ & - 12 \quad - 36 \\ & = 5 : 3 \\ 2u - 12 & = 5p \quad \dots (1) \\ 3u - 36 & = 3p \quad \dots (2) \end{aligned}$$

$$\begin{aligned} (1) \times 3 & \rightarrow 6u - 36 = 15p \quad \dots (3) \\ (2) \times 5 & \rightarrow 15u - 180 = 15p \quad \dots (4) \\ & \text{Equating (3) and (4)} \\ 6u - 36 & = 15u - 180 \\ 9u & = 180 - 36 = 144 \\ 1u & = 144 \div 9 = 16 \\ 5u & = 5 \times 16 = \mathbf{80} \text{ (Ans)} \end{aligned}$$

**They had 80 stickers altogether at first.**

# External Transfer – All items changed

**Q6** Fiona bought a bag of red and blue beads in the ratio of 3 : 5. Later, she was given another 6 red beads and she gave away 34 blue beads. After that, she found that the ratio of the number of red beads to the number of blue beads became 4 : 3. How many red beads did Fiona have at the end?

$$\begin{array}{l} R : B \\ = 3 : 5 \\ + 6 \quad - 34 \\ = 4 : 3 \\ 3u + 6 = 4p \quad \dots (1) \\ 5u - 34 = 3p \quad \dots (2) \end{array}$$
$$\begin{array}{l} (1) \times 3 \rightarrow 9u + 18 = 12p \quad \dots (3) \\ (2) \times 4 \rightarrow 20u - 136 = 12p \quad \dots (4) \\ \text{Equating (3) and (4)} \\ 9u + 18 = 20u - 136 \\ 11u = 136 + 18 = 154 \\ 1u = 154 \div 11 = 14 \\ \text{From (1)} \rightarrow 3u = 3 \times 14 = 42 \\ 42 + 6 = \mathbf{48} \text{ (Ans)} \end{array}$$

**She had 48 red beads at the end.**