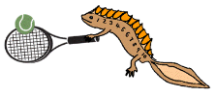
Name Date

MIXED RATIO PROBLEMS 7:4

1. **Anyone for tennis?**



Out of a group of 35 students, 15 play tennis.

a) Write down the ratio of students who play tennis to students who do not.

b) Simplify the ratio.

c) Write down the proportion of students play tennis as a fraction.

d) If the ratio of tennis players to non-tennis players stayed the same, how many students would play tennis if there were 140 students in the group?

2. **The card collector**

Captain collects Salamander game cards. He buys 6 packs with 15 cards in each pack.

20% of the cards in each pack are 'rare' metallic game cards.

a) Write down the ratio of rare cards to non-rare cards in each pack.

b) Simplify the ratio.

c) How many rare cards that he has just bought?

3. **On your bike**

Frazer cycles at a steady speed of 2 ¼ miles every 15 minutes.

a) How fast is his speed in miles per hour?
b) How long would it take him to cycle 45 miles?

Flame cycles at a steady speed of 1 ½ miles every 6 minutes.

c) What is Flame's speed in miles per hour?
d) What is the ratio of Frazer's speed to Flame's speed in simplest form?

Name Date

MIXED RATIO PROBLEMS 7:4 ANSWERS

1. **Anyone for tennis?**  Out of a group of 35 students, 15 play tennis. a) Write down the ratio of students who play tennis to students who do not. b) Simplify the ratio. c) Write down the proportion of students play tennis as a fraction. d) If the ratio of tennis players to non-tennis players stayed the same, how many students would play tennis if there were 140 students in the group?	15 out of 35 students play tennis. 35 – 15 = 20 do not a) Ratio is 15:20 b) → divide by 5 15:20 = 3:4 Simplified ratio is 3:4 c) 3 play : 4 not play tennis so 3/7 of students play tennis. d) 140 ÷ 35 = 4 15 x 4 = 60 students would play tennis
2. **The card collector** Captain collects Salamander game cards. He buys 6 packs with 15 cards in each pack. 20% of the cards in each pack are 'rare' metallic game cards. a) Write down the ratio of rare cards to non-rare cards in each pack. b) Simplify the ratio. c) How many rare cards that he has just bought? 	a) 20% rare = 20/100 rare Ratio is 20 rare : 80 not rare b) 20:80 → divide by 20 1:4 cards are rare c) He bought 6 x 15 = 90 cards 20% are rare We need to find 20% of 90 10% of 90 = 9 So 20% of 90 = 18 18 cards are rare
3. **On your bike** Frazer cycles at a steady speed of 2 ¼ miles every 15 minutes. a) How fast is his speed in miles per hour (mph)? b) How long would it take him to cycle 45 miles? Flame cycles at a steady speed of 1 ½ miles every 6 minutes. c) What is Flame's speed in miles per hour? d) What is the ratio of Frazer's speed to Flame's speed in simplest form? 	a) 2 ¼ miles : 15 minutes → multiply by 4 9 miles : 60 minutes (1 hour) His speed is 9 mph b) 2 ¼ miles : 15 minutes → multiply by 20 45 miles : 300 minutes 300 minutes = 5 hours It would take him 5 hours c) 1 ½ miles : 6 minutes → multiply by 10 15 miles : 1 hour. Her speed is 15 mph. d) 9 mph : 15 mph = 3 : 5