Basic Ratios and Proportion Practice #1

Proportion

1. If Bill can answer 20 questions in 15 minutes, how many questions is he answering per minute?

2. If each bus fits up to 30 students, how many buses will it take to carry 218 students?

3. How many full days will $12\frac{2}{5}$ tonnes of stock last if a company uses a $\frac{7}{10}$ tonnes a day?

4. If a courier delivers 245 packages per (5 day) working week, how many would you expect him to be able to deliver in 8 days?

5. Bill gets 9 out of 14 right, and Sam gets 12 out of 16 right. Who has the higher proportion of right answers?

Ratio

6.   What is the ratio of white to grey shown?

7. Simplify 4 **:** 18 to the simplest possible ratio.

8. If 24 cows out of 80 are vaccinated, write the ratio of vaccinated to unvaccinated in the simplest form.

9. If the ratio A **:** B is 4 **:** 5 and there are 16 As, how many Bs are there?

10. Split $24 in the ratio 1 **:** 2.

Conversion

> 1 inch = 25.4 mm

11. What is 8 inches in mm?

12. What is 90 mm in inches?

Answers: Basic Ratios and Proportion Practice #1
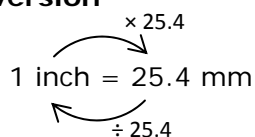
There are usually many ways of answering these questions (but only one correct answer).

1.   20 ÷ 15 = $1\frac{1}{3}$ **questions per minute**

2.   218 ÷ 30 = 7.26   Need to round up in context   **8 buses**

3. $12\frac{2}{5} \div \frac{7}{10} = 17\frac{5}{7}$ Need to round down in context   **17 full days**

        (12.4 ÷ 0.7 = 17.71 if you do it in decimals)

4.   245 ÷ 5 = 49 per day   8 × 49 = 392   **392 packages**

5.   9 ÷ 14 = 0.642 = 64% for Bill.
        12 ÷ 16 = 0.75 = 75% for Sam   **Sam is higher**
        (note: you must show working for such questions, not just write the answer)

Ratio

6.   ⬜⬜⬜⬜🔘🔘⬜   white **:** grey =   **5 : 2**

7.   4 **:** 18 =   **2 : 9**

8.   24 out of 80 leaves 56 unvaccinated = 24 **:** 56 =   **3 : 7**

9.   4 **:** 5 = 16 **:** 20   (× 4 on both sides)   **There are 20 Bs**

10.   1 **:** 2 means there are 1 + 2 = 3 shares. $24 ÷ 3 means each share is $8
                                                                Answer = $8 : $16

Conversion

        × 25.4
1 inch = 25.4 mm
        ÷ 25.4

11.   8 × 25.4 =   **203.2 mm**

12.   90 ÷ 25.4 =   **3.54 inches**