

1a. 18 ft.

+5 1 shelf is $2\frac{1}{2}$ ft. long

5 shelves = $2\frac{1}{2} \times 5$

$\frac{5}{2} \times \frac{5}{1} = \frac{25}{2}$

$2\frac{1}{2}$ ft. for 5 shelves
 $2\frac{1}{2} \times 5 = 12\frac{1}{2}$

Yes, he has enough wood for 5 shelves.

$18\frac{2}{2}$
 $- 12\frac{1}{2}$

$5\frac{1}{2}$ ft. left over

1b. 1. $2\frac{1}{2} \times 5$

+1

a. $18 \div 2\frac{1}{2}$

2a.

1 shelf = $2\frac{1}{2}$ ft. = $12\frac{1}{2}$ in. = 30 inches

+3 $30 \div \frac{9}{16}$

$30 \times \frac{16}{9} = \frac{30}{1} \times \frac{16}{9} = \frac{480}{9}$

$= 53\frac{1}{3} = 53$ whole DVDs

2b. $2\frac{1}{2}$ ft $\div 60$

+2 $\frac{5}{2} \div \frac{60}{1}$

$\frac{5}{2} \times \frac{1}{60} = \frac{1}{24}$ ft.

+6 3. $28 \times 1\frac{1}{4} = \frac{28}{1} \times \frac{5}{4} = 35$ in. for 28 books

One shelf = $2\frac{1}{2}$ ft = 30 in.

No, all 28 books won't fit.

+2 $30 \div 1\frac{1}{4} = 30 \div \frac{5}{4} = \frac{30}{1} \cdot \frac{4}{5} = 24$ books will fit.

+1 $28 - 24 = 4$ books must go on another shelf.

4a. $18 \div 1\frac{3}{4} = 18 \div \frac{7}{4} = \frac{18}{1} \cdot \frac{4}{7} = \frac{72}{7}$

+3

$7\overline{)72} = 10$ shelves

5. $1\frac{3}{4}$ ft = 12 in + 9 in = 21 in long.

+3

$21 \div \frac{9}{16} = \frac{21}{1} \cdot \frac{16}{9} = \frac{112}{3} = 37\frac{1}{3} = 37$ DVDs

6. $21 \div 1\frac{1}{4} = 21 \div \frac{5}{4} = \frac{21}{1} \cdot \frac{4}{5}$

+3

$\frac{84}{5} = 16\frac{4}{5} = 16$ paperback books