

EXERCISE 12.1

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1. Write each of the following as percentage.

(i) $7/25$

(ii) $14/625$

(iii) $5/8$

(iv) 0.8

(v) 0.005

(vi) 3:25

(vii) 11: 80

(viii) 111: 125

(ix) 13: 75

(x) 15: 16

(xi) 0.18

(xii) $7/125$

Solution:

(i) $7/25$

To change any number to percentage we have to multiply that number by 100,
i.e., $7/25 \times 100 = 28\%$

(ii) $14/625$

To change any number to percentage we have to multiply that number by 100,
i.e., $14/625 \times 100 = 56/25 = 2.24\%$

(iii) $5/8$

To change any number to percentage we have to multiply that number by 100,
i.e., $5/8 \times 100 = 125/2 = 62.5\%$

(iv) 0.8

To change any number to percentage we have to multiply that number by 100,
i.e., 0.8 can be written as $8/10$
so, $8/10 \times 100 = 80\%$

(v) 0.005

To change any number to percentage we have to multiply that number by 100,
i.e., 0.005 can be written as $5/1000$
so, $5/1000 \times 100 = 5/10 = 0.5\%$

(vi) 3:25

To change any number to percentage we have to multiply that number by 100,
i.e., $3/25 \times 100 = 3 \times 4 = 12\%$

(vii) 11 : 80

To change any number to percentage we have to multiply that number by 100,
i.e., $11/80 \times 100 = 55/4 = 13.75\%$

(viii) 111 : 125

To change any number to percentage we have to multiply that number by 100,
i.e., $111/125 \times 100 = 444/5 = 88.8\%$

(ix) 13 : 75

To change any number to percentage we have to multiply that number by 100,
i.e., $13/75 \times 100 = 52/3 = 17.3\%$

(x) 15 : 16

To change any number to percentage we have to multiply that number by 100,
i.e., $15/16 \times 100 = 375/4 = 93.75\%$

(xi) 0.18

To change any number to percentage we have to multiply that number by 100,
i.e., 0.18 can be written as $18/100$
so, $18/100 \times 100 = 18\%$

(xii) 7/125

To change any number to percentage we have to multiply that number by 100,
i.e., $7/125 \times 100 = 28/5 = 5.6\%$

2. Convert the following percentages to fractions and ratios.**(i) 25%****(ii) 2.5%****(iii) 0.25%****(iv) 0.3%****(v) 125%****Solution:****(i) 25%**

To convert percentage to fractions we have to divide by 100,
i.e., $25/100 = 1/4$ or 1:4

(ii) 2.5%

To convert percentage to fractions we have to divide by 100,
i.e., 2.5% can be written as $25/10$
so, $(25/10)/100 = 25/1000 = 1/40$ or 1:40

(iii) 0.25%

To convert percentage to fractions we have to divide by 100,
i.e., 0.25% can be written as $25/100$
so, $(25/100)/100 = 25/10000 = 1/400$ or 1:400

(iv) 0.3%

To convert percentage to fractions we have to divide by 100,
i.e., 0.3% can be written as $3/10$
so, $(3/10)/100 = 3/1000$ or 3:1000

(v) 125%

To convert percentage to fractions we have to divide by 100,
i.e., $125/100 = 5/4$ or 5:4

3. Express the following as decimal fractions.**(i) 27%****(ii) 6.3%****(iii) 32%****(iv) 0.25%****(v) 7.5%****(vi) $1/8\%$** **Solution:****(i) 27%**

To convert percentage to decimal fractions we have to divide by 100,
i.e., $27\% = 27/100 = 0.27$

(ii) 6.3%

Here 6.3 can be written as $63/10$

To convert percentage to decimal fractions we have to divide by 100,
i.e., $6.3\% = 63/(10 \times 100) = 63/1000 = 0.063$

(iii) 32%

To convert percentage to decimal fractions we have to divide by 100,
i.e., $32\% = 32/100 = 0.32$

(iv) 0.25%

Here 0.25 can be written as $25/100$

To convert percentage to decimal fractions we have to divide by 100,
i.e., $0.25\% = 25/(100 \times 100) = 25/10000 = 0.0025$

(v) 7.5%

Here 7.5 can be written as $75/10$

To convert percentage to decimal fractions we have to divide by 100,
i.e., $7.5\% = 75/(10 \times 100) = 75/1000 = 0.075$

(vi) $1/8\%$

To convert percentage to decimal fractions we have to divide by 100,
i.e., $1/8\% = 1/(8 \times 100) = 1/800 = 0.00125$

