

PROPORTIONNALITE

EXERCICE 2A

EXERCICE 1 :

CORRIGE – M. QUET

a. $d = 250 \text{ km}$ $t = 4 \text{ h}$ $v = \frac{d}{t} = \frac{250}{4}$ $v = 62,5 \text{ km/h}$	b. $d = 620 \text{ km}$ $t = 4 \text{ h}$ $v = \frac{d}{t} = \frac{620}{4}$ $v = 155 \text{ km/h}$	c. $d = 12 \text{ km}$ $t = 0,5 \text{ h}$ $v = \frac{d}{t} = \frac{12}{0,5}$ $v = 24 \text{ km/h}$	d. $d = 1200 \text{ m}$ $t = 3 \text{ s}$ $v = \frac{d}{t} = \frac{1200}{3}$ $v = 400 \text{ m/s}$	e. $d = 5 \text{ km} = 5\,000 \text{ m}$ $t = 120 \text{ s}$ $v = \frac{d}{t} = \frac{5000}{120}$ $v \approx 41,7 \text{ m/s}$
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EXERCICE 2 : Connaissant la vitesse moyenne « v » et la durée du trajet « t », calculer la distance.

a. $v = 120 \text{ km/h}$ $t = 6 \text{ h}$ $v = \frac{d}{t}$ $120 = \frac{d}{6}$ $120 \times 6 = d$ $d = 720 \text{ km}$	b. $v = 90 \text{ km/h}$ $t = 3,5 \text{ h}$ $v = \frac{d}{t}$ $90 = \frac{d}{3,5}$ $90 \times 3,5 = d$ $d = 315 \text{ km}$	c. $v = 8 \text{ m/s}$ $t = 60 \text{ s}$ $v = \frac{d}{t}$ $8 = \frac{d}{60}$ $8 \times 60 = d$ $d = 480 \text{ m}$	d. $v = 12 \text{ m/s}$ $t = 9,5 \text{ s}$ $v = \frac{d}{t}$ $12 = \frac{d}{9,5}$ $12 \times 9,5 = d$ $d = 114 \text{ m}$	e. $v = 15,3 \text{ km/h}$ $t = 1,5 \text{ h}$ $v = \frac{d}{t}$ $15,3 = \frac{d}{1,5}$ $15,3 \times 1,5 = d$ $d = 22,95 \text{ km}$
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EXERCICE 3 : Pareil que l'EXERCICE 2 mais convertir auparavant la durée dans la bonne unité.

a. $v = 30 \text{ km/h}$ $t = 120 \text{ min}$ $t = 120 \text{ min} = 2 \text{ h}$ $v = \frac{d}{t}$ $30 = \frac{d}{2}$ $30 \times 2 = d$ $d = 60 \text{ km}$	b. $v = 90 \text{ km/h}$ $t = 180 \text{ min} = 3 \text{ h}$ $v = \frac{d}{t}$ $90 = \frac{d}{3}$ $90 \times 3 = d$ $d = 270 \text{ km}$	c. $v = 70 \text{ km/h}$ $t = 7200 \text{ s} = 2 \text{ h}$ $v = \frac{d}{t}$ $70 = \frac{d}{2}$ $70 \times 2 = d$ $d = 140 \text{ km}$	d. $v = 0,5 \text{ km/s}$ $t = 1 \text{ h} = 3\,600 \text{ s}$ $v = \frac{d}{t}$ $0,5 = \frac{d}{3600}$ $0,5 \times 3600 = d$ $d = 1\,800 \text{ km}$	e. $v = 4,3 \text{ m/s}$ $t = 3 \text{ h} = 10\,800 \text{ s}$ $v = \frac{d}{t}$ $4,3 = \frac{d}{10800}$ $4,3 \times 10800 = d$ $d = 46\,440 \text{ m}$
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EXERCICE 4 : Connaissant la vitesse moyenne « v » et la distance « d », calculer la durée du trajet.

a. $v = 120 \text{ km/h}$ $d = 480 \text{ km}$ $v = \frac{d}{t}$ $120 = \frac{480}{t}$ $t = \frac{480}{120}$ $t = 4 \text{ h}$	b. $v = 60 \text{ km/h}$ $d = 720 \text{ km}$ $v = \frac{d}{t}$ $60 = \frac{720}{t}$ $t = \frac{720}{60}$ $t = 12 \text{ h}$	c. $v = 40 \text{ km/h}$ $d = 70 \text{ km}$ $v = \frac{d}{t}$ $40 = \frac{70}{t}$ $t = \frac{70}{40}$ $t = 1,75 \text{ h}$	d. $v = 12 \text{ m/s}$ $d = 100 \text{ m}$ $v = \frac{d}{t}$ $12 = \frac{100}{t}$ $t = \frac{100}{12}$ $t \approx 8,33 \text{ h}$	e. $v = 340 \text{ m/s}$ $d = 5\,000 \text{ m}$ $v = \frac{d}{t}$ $340 = \frac{5000}{t}$ $t = \frac{5000}{340}$ $t \approx 14,3 \text{ s}$
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EXERCICE 5 : Pareil que l'EXERCICE 4 mais convertir auparavant la distance dans la bonne unité :

a. $v = 10 \text{ km/h}$ $d = 5\,000 \text{ m}$ $d = 5000 \text{ m} = 5 \text{ km}$ $v = \frac{d}{t}$ $10 = \frac{5}{t}$ $t = \frac{5}{10}$ $t = 0,5 \text{ h}$	b. $v = 5 \text{ km/h}$ $d = 20\,000 \text{ m} = 20 \text{ km}$ $v = \frac{d}{t}$ $5 = \frac{20}{t}$ $t = \frac{20}{5}$ $t = 4 \text{ h}$	c. $v = 12 \text{ m/s}$ $d = 1 \text{ km} = 1\,000 \text{ m}$ $v = \frac{d}{t}$ $12 = \frac{1000}{t}$ $t = \frac{1000}{12}$ $t \approx 83,3 \text{ s}$	d. $v = 40 \text{ km/h}$ $d = 100 \text{ m} = 0,1 \text{ km}$ $v = \frac{d}{t}$ $40 = \frac{0,1}{t}$ $t = \frac{0,1}{40}$ $t = 0,0025 \text{ h} = 9 \text{ s}$	e. $v = 340 \text{ m/s}$ $d = 10 \text{ km} = 10\,000 \text{ m}$ $v = \frac{d}{t}$ $340 = \frac{10000}{t}$ $t = \frac{10000}{340}$ $t \approx 29,4 \text{ s}$
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