TEACHER COPY · READ FIRST

Ropes Course Equations on paper · Grade 6

4 printable trips that match the 4 levels of the online game. No device or account needed.

What is inside

Pages	For	What
This page	Teacher	How to run, score and choose a next step
Trips 1–4	Students	Each trip: the level's picture and checkpoint names, five checkpoints (the last has two parts) and an unscored Talk bonus. Trips 1–2 use the game's main questions; trips 3–4 practice the same kinds of questions with new numbers.
Answer key	Teacher	Answer, the game's clue, worked steps, and what common wrong answers usually mean
Record sheet	Teacher	First answers and fixes, one row per student per trip

Run one trip (20–30 minutes)

1. Copy one trip for each student. Students may use scratch paper; no calculator is needed.
2. Check each checkpoint. After a first miss, read the **clue** from the key aloud and let the student try once more. They keep the first answer and write the new one with a star (★). This is what the online game does.
3. After a second miss, go through the **worked steps** together, as the game does.
4. On a question with several boxes or rows, every box must be right for the first answer to count.

Count and choose a next step

Count **first answers** on checkpoints 1–4, and record Part A and Part B of checkpoint 5 separately. Fixes with a star go in their own column. There is no cut score.

What you see	A next step
Fixed after the clue (★)	Ask what the clue made them notice; give the matching question on a later trip.
Missed twice	Work the steps together, then try the trip 3–4 question from the same family (same kind, new numbers).
The key's wrong-answer note keeps repeating	Teach to that error (for example, doing a step to only one side of an equation, or forgetting to flip an inequality when dividing by a negative).
Part A right, Part B wrong	The first step is solid; talk through how Part B uses it.

Levels in this packet

- **Course 1: Ropes Course** — Cargo Ladder, Swinging Bridge, Hanging Logs, Zip Line, Rings & Cargo Net
- **Course 2: Pine Canopy** — Rope Ladder, Overhead Traverse, Swinging Logs, Balance Beam & Zip Line, Bridge & Cargo Net
- **Course 3: Moab Canyon** — Stairs & Beam, Stone Steps, Cargo Net, Ladder & Zip Line, Bridge, Net & Traverse
- **Course 4: Alpine** — Stairs & Rope Traverse, Hanging Logs, Bridges & Stairs, Cargo Net, Steps & Zip Line

Same questions as the online game. These are the game's questions, so a student who played online may have seen some. Original practice from Pole Mountain Learning, informed by published mathematics expectations. It is not an official Pearson, NAVVY or WY-TOPP assessment and does not use their test questions. Results are practice notes, not grades, and do not predict test scores or establish mastery. Built and reviewed with AI tools; no human classroom trial of this revision yet. Free for classroom use. November 2026 edition.

TEACHER ANSWER KEY · KEEP SEPARATE FROM STUDENT COPIES

Answer key · Grade 6

Course 1: Ropes Course

#	Skill · standard	Answer	Clue (after a first miss) and worked steps	Common wrong answers
1	Expressions in context 6.EE.2a, 6.EE.6	**B**	**Clue:** Which amount repeats for every station, and which amount is added only once? **Worked:** The repeated amount is 3 × s = 3s. Add the one-time bonus: 3s + 2.	**A:** This multiplies the 2 extra points by 3 as well. **C:** This gives 2 points per station and adds 3 only once.
2	Parts of expressions 6.EE.2b	The coefficient (the number multiplying the variable) of t is **5**. The expression means **the sum of five times t and eight**.	**Clue:** The coefficient is the factor multiplying the variable. Check which operations are grouped together. **Worked:** The term containing t is 5t, so its coefficient is 5. Multiply t by 5, then add 8; the sum is 5t + 8.	
3	Evaluate expressions 6.EE.2c	20 Any well-formed numerically equivalent whole number, fraction, mixed number or finite decimal; no rounding.	**Clue:** Evaluate the power and the multiplication before adding. **Worked:** $2^3 = 2 \times 2 \times 2 = 8$. With x = 4, 3x = 3 × 4 = 12. 8 + 12 = 20.	
4	Equivalent expressions 6.EE.3	**A and C**	**Clue:** Multiply the outside factor by each term inside. Addition can be written in either order. **Worked:** 4(x + 3) = 4x + 12. The same sum can be written 12 + 4x.	**B:** The factor 4 must multiply the 3 as well as x. **D:** The constant 3 cannot be added to the coefficient of x. **E:** The constant comes from 4 × 3, not 4 + 3.
5A	Strict inequalities 6.EE.8	x = 4.5: **Yes** · x = 6: **No** · x = 7: **No**	**Clue:** Replace x with one listed number at a time. A strict inequality is not true at equality. **Worked:** 4.5 < 6 is true; 6 < 6 is false; 7 < 6 is false.	Substitute the value in x = 4.5 into x < 6; check its relation to 6. Substitute the value in x = 6 into x < 6; check its relation to 6. Substitute the value in x = 7 into x < 6; check its relation to 6.
5B		**C**	**Clue:** Think about whether the boundary itself satisfies the rule. **Worked:** The value 6 does not satisfy x < 6. An open dot marks a boundary that is not part of the solution set.	**A:** The rule x < 6 includes decimals below 6 as well as whole numbers. **B:** A strict less-than rule does not include equality.

Talk bonus (balance): Subtract 3 from the other side too.

Course 2: Pine Canopy

#	Skill · standard	Answer	Clue (after a first miss) and worked steps	Common wrong answers
1	Variables in context 6.EE.6, 6.EE.7	First slot: 5 · Second slot: 12 · not used: 7	**Clue:** Completed stations plus stations left equals the total. **Worked:** The unknown completed count is c. Add the 5 stations left to get all 12: c + 5 = 12.	Use the equation structure to decide which quantity belongs in the first slot. Use the equation structure to decide which quantity belongs in the second slot.
2	Inequalities in context 6.EE.6, 6.EE.8	The cord lengths that meet the requirement satisfy c **≥ 2.5**.	**Clue:** Decide whether the amount must be greater or smaller than the stated limit. Equality is not included. **Worked:** Longer than means greater than, so c > 2.5. The length 2.5 itself is excluded; for example, 3 meters meets the requirement.	
3	One-step multiplication equations 6.EE.7	2.5 liters Any well-formed numerically equivalent whole number, fraction, mixed number or finite decimal; no rounding.	**Clue:** Divide the total into the stated number of equal groups. **Worked:** Divide both sides of 3q = 7.5 by 3. q = 2.5 liters. Check: 3 × 2.5 = 7.5.	
4	Strict inequalities 6.EE.8	**A**	**Clue:** The boundary is the cutoff value. A strict inequality leaves it out. A ray is the line with an arrow showing the direction that continues. **Worked:** The rule x > 3 excludes 3, so use an open dot. The solutions lie to the right, so the ray points right.	**B:** A closed dot includes 3, but the strict inequality excludes it. **C:** This ray points toward values on the wrong side of 3.
5A	One-step equation reasoning 6.EE.7	5.25 meters Any well-formed numerically equivalent whole number, fraction, mixed number or finite decimal; no rounding.	**Clue:** To keep an equation balanced, undo an operation on both sides. **Worked:** Subtract 2.75 from both sides. x = 8 − 2.75 = 5.25 meters.	
5B		**A**	**Clue:** Test the operations using 8 and 2.75. Which could produce 10.75? **Worked:** The equation already adds 2.75 to x. Adding it to 8 does not undo that addition; subtracting it does.	**B:** Compare 8 − 2.75 with the student's result. **C:** Test division and multiplication using 8 and 2.75.

Talk bonus (traverse): The climber moves sideways along the bar, one hand at a time.

Course 3: Moab Canyon

#	Skill · standard	Answer	Clue (after a first miss) and worked steps	Common wrong answers
1	Expressions in context 6.EE.2a, 6.EE.6	**C**	**Clue:** First remove the markers. Then share what remains. **Worked:** After taking 4 markers, b − 4 remain. Two equal shares are represented by (b − 4) ÷ 2.	**A:** This splits the full supply first, then removes 4 from each team. **B:** This doubles the remaining supply instead of sharing it.

#	Skill · standard	Answer	Clue (after a first miss) and worked steps	Common wrong answers
2	Parts of expressions 6.EE.2b	The coefficient (the number multiplying the variable) of n is **3**. The expression means **six plus three times n**.	**Clue:** The coefficient is the factor multiplying the variable. Check which operations are grouped together. **Worked:** The term containing n is 3n, so its coefficient is 3. Multiply n by 3, then add 6; the sum is 6 + 3n.	
3	Evaluate expressions 6.EE.2c	23 Any well-formed numerically equivalent whole number, fraction, mixed number or finite decimal; no rounding.	**Clue:** Replace z first. Evaluate the square, then multiply, then add. **Worked:** With $z = 3$, $z^2 = 3 \times 3 = 9$. $2 \times 9 = 18$, and $5 + 18 = 23$.	
4	Equivalent expressions 6.EE.3	**A and D**	**Clue:** Multiply the outside factor by each term inside. Addition can be written in either order. **Worked:** $3(2 + y) = 6 + 3y$. The same sum can be written $3y + 6$.	**B:** The variable y must also be multiplied by 3. **C:** The 2 inside the parentheses must also be multiplied by 3. **E:** A number without y and a y term are unlike terms and cannot combine into a single y term.
5A	Strict inequalities 6.EE.8	$x = 1.5$: **No** · $x = 2$: **No** · $x = 2.5$: **Yes**	**Clue:** Replace x with one listed number at a time. A strict inequality is not true at equality. **Worked:** $1.5 > 2$ is false; $2 > 2$ is false; $2.5 > 2$ is true.	Substitute the value in $x = 1.5$ into $x > 2$; check its relation to 2. Substitute the value in $x = 2$ into $x > 2$; check its relation to 2. Substitute the value in $x = 2.5$ into $x > 2$; check its relation to 2.
5B		**B**	**Clue:** Think about whether the boundary itself satisfies the rule. **Worked:** The value 2 does not satisfy $x > 2$. An open dot marks a boundary that is not part of the solution set.	**A:** The rule $x > 2$ excludes equality, so the boundary stays out. **C:** Decimals greater than 2 satisfy the inequality too.

Talk bonus (pillar): A rock pillar at each end.

Course 4: Alpine

#	Skill · standard	Answer	Clue (after a first miss) and worked steps	Common wrong answers
1	Variables in context 6.EE.6, 6.EE.7	First slot: 8 · Second slot: 40 · not used: 32	**Clue:** The number per tray repeats for every tray. **Worked:** Each tray contributes 8 markers. For t trays the total is $8 \times t$, so $8 \times t = 40$.	Use the equation structure to decide which quantity belongs in the first slot. Use the equation structure to decide which quantity belongs in the second slot.

#	Skill · standard	Answer	Clue (after a first miss) and worked steps	Common wrong answers
2	Inequalities in context 6.EE.6, 6.EE.8	The sample volumes that meet the requirement satisfy $p \leq \frac{3}{4}$.	**Clue:** Decide whether the amount must be greater or smaller than the stated limit. Equality is not included. **Worked:** Less than means strictly smaller, so $p < \frac{3}{4}$. A volume of $\frac{3}{4}$ liter is excluded; $\frac{1}{2}$ liter is an example that meets the requirement.	
3	One-step multiplication equations 6.EE.7	$\frac{3}{4}$ meters Any well-formed numerically equivalent whole number, fraction, mixed number or finite decimal; no rounding.	**Clue:** The product is known. Undo multiplication to find one equal piece. **Worked:** Divide both sides of $4d = 3$ by 4. $d = \frac{3}{4}$ meter. Check: $4 \times \frac{3}{4} = 3$.	
4	Strict inequalities 6.EE.8	**C**	**Clue:** The boundary is the cutoff value. A strict inequality leaves it out. A ray is the line with an arrow showing the direction that continues. **Worked:** The rule $x < 5$ excludes 5, so use an open dot. The solutions lie to the left, so the ray points left.	**A:** This ray points toward values on the wrong side of 5. **B:** A closed dot includes 5, but the strict inequality excludes it.
5A	One-step equation reasoning 6.EE.7	1.75 meters Any well-formed numerically equivalent whole number, fraction, mixed number or finite decimal; no rounding.	**Clue:** The total is made of equal groups. Undo multiplication on both sides. **Worked:** Divide both sides of $5r = 8.75$ by 5. $r = 8.75 \div 5 = 1.75$ meters. Check: $5 \times 1.75 = 8.75$.	
5B		**B**	**Clue:** Which operation reverses multiplication by the number of equal groups? **Worked:** The equation multiplies one cord length by 5. Divide the total by 5 to recover one cord length.	**A:** Subtracting 5 once does not undo a factor of 5. **C:** The total already includes every group; adding 5 does not find one group.

Talk bonus (suspended): They hang from ropes instead of resting on something solid.

TEACHER COPY · CLASS RECORD SHEET

Ropes Course Equations on paper · Grade 6

Use initials or class codes only. One row per student per trip. Copy this page for more students.

Student (initials or code)	Course #	Checkpoint 1	Checkpoint 2	Checkpoint 3	Checkpoint 4	Checkpoint 5 · Part A	Checkpoint 5 · Part B	Next step / notes

In each checkpoint cell write ✓ if the FIRST answer was right, or ★ if the student fixed it after the clue. Leave it blank if it was still missed. Count only ✓ as first answers, as the online game does; ★ fixes are shown but counted separately. Part A and Part B of checkpoint 5 are recorded separately.